Registered at the G.P.O., Sydney, for Transmission by Post as a Newspaper. Published Weekly. Price 1s.

Medical Library DEC 1 1927

THE MEDICAL JOURNAL OF AUSTRALIA

VOL. II.—14TH YEAR. SYDNEY: SATURDAY, OCTOBER 22, 1927. No. 17.

'Allenburys' Malted Food No. 3

FOR INFANTS OF 6 MONTHS OF AGE AND UPWARDS

By the use of this food the Infant's dietary is carried a stage further towards the taking of solid food. The wheat carbohydrates it contains are partially pre-digested to ensure that no starch is taken as such, but is presented in a soluble form so that saccharification is readily completed in the infant's digestive system. In the prepared food the protein content is higher than in the Milk Foods Nos. 1 and 2.

The "Allenburys" Malted Food No. 3, when prepared for use by admixture with cow's milk and water according to the directions, has the following approximate composition:

FAT	2·1 per cent.
PROTEINS	2·9 ,, ,,
CARBOHYDRATES	9·9 ,, ,,

The whole series of the "Allenburys" Foods for Infants, comprising the Milk Foods Nos. 1 and 2, Malted Food No. 3 and Malted Rusks, may now be obtained throughout Australia.

A full sized package of any of these foods and a copy of the new edition of "The 'Allenburys' Foods in Infant Feeding," will gladly be sent gratis to any Physician on request.

ALLEN & HANBURYS (AUSTRALASIA) LTD.

13 MARKET STREET, SYDNEY, N.S.W.

CHANGE - - - REST
COMFORT

JENOLAN CAVES

Tariff: 22/6

The Great Western Road is magnificent.
TAKE YOUR OWN CAR

Full Information at
N.S.W.
Government Tourist Bureau
Challis House,
8, Martin Place, Sydney.
Tel.: B 06-2223.

For Gout and Rheumatism ..

VICHY WATER

(Celestins)

Owned and bottled under the control of the French Government

Sole Australian Agents:
MAURICE PELLETIER, 16 Bridge St., Sydney.

Drugs
Dressings
Instruments

Save yourself irritating delays, purchase all your Drugs, Dressings, Instruments and Medical Hardware from the one reliable house. Rapid efficient service is given and you have the advantage of receiving supplies in the one case, securely packed and plainly addressed. One account and one cheque completes the transaction.

HENRY FRANCIS & CO.
280 Bourke Street
107 Collins Street
Melbourne.
Phones:
P.O. Box 502H. Cent. 86, 87, 3017, 3018

When low diet becomes monotonous

In fevers of all kinds, and in all illnesses involving a light diet, Benger's solves the problem of change of food.

Patients appreciate this delicate food cream, which may be flavoured as desired with salt, vanilla, coffee, or chocolate, etc.

BENGER'S Food
REGISTERED TRADE MARK.

is retained and assimilated even in cases of extreme weakness; and the degree of self-digestion peculiar to Benger's Food, may be regulated to suit any digestive capacity.

A Physician's sample will be sent on application.

BENGER'S FOOD Ltd., 350, George St., Sydney
Otter Works, Manchester, England

THE MEDICAL JOURNAL OF AUSTRALIA

VOL. II.—14TH YEAR. SYDNEY: SATURDAY, OCTOBER 22, 1927. No. 17.

Authors of articles submitted for publication are requested to read the following instructions and to comply with them.

All articles must be typed with double or treble spacing. Carbon copies should not be sent. Abbreviations should be avoided, especially those of a technical character at times employed in ward notes. Words and sentences should not be underlined or typed in capitals. The selection of the correct type is undertaken by the Editors. When illustrations are required, good photographic prints on glossy gaslight papers should be submitted. Each print should be enclosed in a sheet of paper. On this sheet of paper the number of the figure and the legend to appear below the print should be typed or legibly written. On no account should any mark be made on the back of the photographic print. If no good print is available, negatives may be submitted. Line drawings, graphs, charts and the like should be drawn on thick, white paper in India ink by a person accustomed to draw for reproduction. The drawings should be large and boldly executed and all figures, lettering and symbols should be of sufficient strength and size to remain clear after reduction. Skiagrams can be reproduced satisfactorily only if good prints or negatives are available. The reproduction of all illustrations but especially of skiagrams entails the sacrifice of time and energy and is expensive. Authors are expected to take a corresponding amount of trouble on the preparation of their illustrations, whether skiagrams, photographs, wash drawings or line drawings. The references to articles and books quoted must be accurate and should be compiled according to the following scheme. The order should correspond to the order of appearance in the article. The initials and surnames of the authors, the full title of the article or book, the full (unabbreviated) title of the journal in which the article appears, the date of the issue (day, month and year) and the number of the first page should be given in this sequence.

Table of Contents

[The Whole of the Literary Matter in THE MEDICAL JOURNAL OF AUSTRALIA is Copyright.]

ORIGINAL ARTICLES— PAGE.

"Diathermy in General Practice," by A. J. REYE, M.B., Ch.M. 566

"Radiography of Nasal Accessory Sinuses," by K. STUART CROSS, M.Sc., M.D. 569

"The Non-Organic Dyspepsias," by FRANK L. APPERLY, M.A., M.D., D.Sc. 571

"The Cure of Pruritus Ani by Operation," by C. E. CORLETTE, M.D., Ch.M. 580

REPORTS OF CASES—

"Hæmangiectatic Hypertrophy of the Arm: A Case of Genuine Phlebectasis," by ERIC SUSMAN, M.B., Ch.M., M.R.C.P. and D. W. MCCREDIE, M.C., M.B., Ch.M. 581

"Strangulated Inguinal Hernia with Burst Sac at Ninety-one Years of Age: Operation and Recovery," by C. E. CORLETTE, M.D., Ch.M. 582

"Hepatic Hypertrophy in the New Born," by R. F. MATTERS, M.B., B.S., D.G.O., F.R.C.S. .. 583

REVIEWS—

Diseases of the Prostate 583

Surgery of the Thyreoid 584

An Epitome of Skin Diseases 584

LEADING ARTICLES— PAGE

The Code of Ethics 585

CURRENT COMMENT—

Blood-Letting 586

ABSTRACTS FROM CURRENT MEDICAL LITERATURE—

Dermatology 588

Urology 589

BRITISH MEDICAL ASSOCIATION NEWS—

Scientific 590

Nominations and Elections 592

Medico-Political 592

BOOKS RECEIVED 596

DIARY FOR THE MONTH 596

MEDICAL APPOINTMENTS VACANT, ETC. 596

MEDICAL APPOINTMENTS: IMPORTANT NOTICE 596

EDITORIAL NOTICES 596

DIATHERMY IN GENERAL PRACTICE.[1]

By A. J. Reye, M.B., Ch.M. (Sydney).
Honorary Physician, Brisbane General Hospital, Brisbane.

Although diathermy, the name given to the method of localizing heat in the body by electrical currents of high frequency, has been gaining in favour during the last few years, nothing like the advantage which its usefulness warrants, is yet taken of this valuable therapeutic agent.

To some it is under suspicion perhaps, as being too new and untried; a brief historical note should dispel that idea if it yet persists. In 1890 D'Arsonval, experimenting with the apparatus of Hertz, demonstrated that with electrical oscillations of sufficient frequency all muscular contractions could be suppressed, permitting a current of three ampères to be passed through the body; the only sensation noted was one of a "disagreeable heat." He noted without being able to explain their mode of action, that these currents possessed peculiar physiological properties and could modify the metabolic processes of the body. He appears, however, to have thought at first that these currents, like static charges, existed only on the surface of the body.

In 1907 Nagelschmidt, of Berlin, demonstrated that high frequency currents could bring about a penetration of heat into the tissues and he suggested their use in the medical treatment of diseases of the joints and the circulation.

He designed the parent type of the present diathermy machine which was introduced into England by Dr. Lewis Jones, and its use was demonstrated for the first time in that country by Nagelschmidt in 1910.

Since that date it has found increasing favour in many countries. The physiotherapy departments established in army hospitals during and since the war and the great improvements made in apparatus during the last few years have no doubt been decisive factors in establishing diathermy as one of the important weapons at our disposal in the constant war against disease.

To some a stumbling block is the belief that it is necessary to understand a good deal about electricity to make an intelligent use of diathermy; a brief description of the apparatus will convince you that this is not the case. The line current of 240 volts, 50 cycles, is fed by way of a tapped inductance to a closed core transformer and raised to several kilovolts. This high voltage current is now passed into condensers which are connected on their opposite sides through a winding of a few turns of heavy wire. A spark gap is placed across the secondary leads to the condensers just ahead of them. Current fed into this circuit will now oscillate at a frequency determined by the electrical values of the components. The intensity of the current is controlled by the tapped inductance and by varying the width of the spark gaps which are two or more in series. The spark gap is the most important part of the machine and must be kept sufficiently cool to prevent the current arcing across in a continuous stream instead of oscillating in a stream of sparks.

A high amperage can be obtained from a suitable machine which should be of substantial construction and built expressly for the generation of diathermy currents. Machines made to give also other modalities are quite unsuitable. The knowledge which is absolutely essential for the correct use of diathermy is that of anatomy, physiology and pathology. These branches of knowledge are fully comprehended by none outside the medical profession. If diathermy is to be used by others it should be only under efficient medical supervision. Medical practitioners who do not wish to make personal use of diathermy, at least need to understand its possibilities if their patients are to be adequately cared for and not fall ultimately into the hands of irregular practitioners through fault of their medical adviser.

The application of diathermy then to the body causes heat to be generated in the tissues between the electrodes and as the chief effect of diathermy is due to this heat you will at once perceive to how many forms of disease it is suitable. Heat applied to living tissues causes hyperæmia and Professor Bier in a report on his studies of hyperæmia has shown that the production of analgesia and absorption, also bactericidal and nutritive effects, are brought about when hyperæmia is induced in the tissues. Only by the use of diathermy can heat be generated in the deeper tissues and its effects obtained there; to all forms of externally applied heat the skin offers an effective insulation.

Obviously therefore this method of treatment will recommend itself in practically every condition where inflammation exists; the contraindications are, conditions where pus is present until free drainage is established and acute septic conditions of the uterus after childbirth or miscarriage. Nor would you use it after a recent hæmoptysis or venous thrombosis and you would do well to go warily in a pulmonary condition suspected of caseation. With these exceptions you will find it useful for conditions ranging on the medical side from perionychia to pneumonia and on the surgical from the removal of a simple mole to the destruction of malignant growths on the accessible portions of the human body.

This is not to claim it as a panacea and so render it suspect. "Electricity," remarks Turrell, "still remains a rational but fallible remedy and is still incapable of effecting impossibilities. But it is by no means an empirical remedy for its mode of action is far more capable of explanation and visualization than many forms of drug therapy. It has, except in the case of radiotherapy, no direct or specific action on disease, for it merely supplies us with that energy or force from which, by means of suitable instrumentation and the correct methods, we obtain the therapeutic energy we require."

Naturally we do not confine ourselves to one method of treatment for all diseases; for many con-

[1] Read at a meeting of the Queensland Branch of the British Medical Association on July 1, 1927.

ditions diathermy, though suitable, is unnecessary, for others medicines should be exhibited as well, for some an alternative is surgery and there are those which will respond to nothing else but diathermy; our training and common sense must form the judgement.

After these abstract statements you will desire some more concrete facts—the methods of application in various cases and the results obtained.

Pneumonia.

Dr. H. Eaton Stewart, of New York, recently published the results of nearly four hundred cases of pneumonia treated at the Marine Hospital, New York, by diathermy.

He states:

> In lobar pneumonia the effects are often very striking. Pain is lessened, the respiration rate slowed, cyanosis lessened, the capillaries becoming relaxed; and resolution is hastened. In 97% of cases treated the temperature dropped by lysis and often falls on the second to third day.

Of late Dr. Stewart has included the heart in the area treated and considers that coronary circulation is improved and the effect of toxins on the myocardium minimized. It is valuable also in bronchopneumonia, post-etherization and hypostatic pneumonia, but not so definitely as in lobar pneumonia.

> A striking case in my own practice was that of a little girl, aged seven years who was brought in one evening with a history of sudden onset of rapid breathing and weakness some eight hours previously. The temperature was 39·4°C. (103·4°F.) and the X ray screen showed a double lobar pneumonia. Diathermy was administered. The child fell asleep in about ten minutes and was removed at the end of the treatment still sleeping. The next morning the temperature was 36·1°C. (97°F.) and the breathing normal. The temperature did not rise above normal subsequently; beyond a slight cough all symptoms subsided immediately but crepitations persisted until the ninth day.

The period during which the patient is confined to bed after the temperature becomes normal, is not materially lessened: the lung still requires a period of time in which to return to normal.

I regret that I cannot offer you the results of a series of cases from my own practice.

In my private practice I have had too few to make a comparison with the general methods of treatment of much value. At the Brisbane Hospital a portable machine for use in the wards is not yet available, possibly owing to the fact that the hospital is still wired with direct current. However, I hope that in the not distant future this may be altered and the results of a series of pneumonia patients treated by diathermy be made available so that you may judge for yourselves of its efficacy.

Dr. Eaton Stewart recommends in the treatment of these patients applications every four hours of a small amount of current of forty minutes' duration. Cases of delayed resolution benefit immediately; the relief of symptoms being very noticeable.

In the early stages of pulmonary tuberculosis diathermy is indicated and within a few weeks will be seen to have justified its application. In the later stages it would need to be applied cautiously. I cannot give you any results in such late cases from my own observation.

Sometimes a patient with a cough of several months' duration will be met with, who does not improve in spite of varied mixtures and who yields no information by percussion or auscultation. Upon X ray examination a well defined area of increased lung markings may be detected, the condition being apparently due to a partial blockage in the lymph and venous drainage from the affected part. Diathermy will cause a rapid improvement. In fact, in one case of twelve months' standing where the patient had been treated by an autogenous vaccine for six months, the condition was completely relieved in under a fortnight. In such cases the current is applied through the mediastinum. You will perceive that no skill is required to treat such a condition—a chance could be taken on the diagnosis. For your own sakes as well for the patient it does not do to forget that in diathermy in chest cases you have a potent ally.

The majority of patients who will seek relief by physical means, are those suffering from the various forms of arthritis, from sciatica, from brachial neuritis and from lumbar fibrosis. In all such a very thorough search must be made for a local focus of infection, else the relief gained will be but temporary. The commonest site of infection, of course, is around or beneath the teeth and it is well to remember that there may be septic stumps lurking in the mouths of those who have worn complete upper and lower dentures for several years and further, that it has been recently shown on more than one occasion that dead teeth which manifest no pathological changes on X ray examination, and those which do, are equally likely to be infected. There is no need to enumerate all the sites of focal infection, all must be examined in turn. Of these septic tonsils may be destroyed by surgical diathermy under local anæsthesia, areas in a chronically inflamed cervix without any anæsthesia and of the chronic sinus infections De Kraft, of New York, claims good results from the treatment of sphenoidal sinuses by medical diathermy.

The greater number of these cases is cleared up when the focal infection is efficiently treated; those which retain their symptoms, will clear up under diathermy, but do not as a rule respond at once, indeed the pain may at first be aggravated and the patient should be warned of this beforehand or further treatment may be refused. To persist is to cure. The average period necessary to effect a cure is three weeks, sometimes the simultaneous exhibition of salicylates will hasten the process.

Rheumatoid arthritis responds well and pain is relieved very early in the course of the treatment, naturally the destroyed cartilage cannot be replaced, but short of this the results are in every way satisfactory.

In treating brachial neuritis and sciatica the spinal segment involved must be included in the area treated; very often, as you would expect, only this area needs treatment.

Functional dysmenorrhœa is another bugbear which can be depended upon to yield to diathermy after quite a short period of treatment.

With chronic pelvic infections in women results are excellent, although the condition may be one of long standing and many who otherwise must of necessity have gone to operation, are spared this ordeal.

One application of one ampère for twenty minutes through a hollow metal tube is frequently, in fact almost without exception, sufficient to remove the pain from internal hæmorrhoids for a considerable period, even several years or until the previous exciting cause again operates, confinements being a common cause of recurrence in women.

As regards cases of high blood pressure there is a temporary reduction due to a dilatation of the superficial capillaries all over the body which soon passes, but in suitable cases those in which the rise in pressure is comparatively recent and in which the rise is due to faulty metabolism or deficient elimination of the waste nitrogenous products of the body, there is a more gradual and a more permanent reduction in pressure with a corresponding diminution of symptoms.

I have under my care a young patient of some sixteen years who first complained of headaches and vomiting of some months' duration and has been getting progressively worse. The urine was loaded with albumin, was pale and of moderately low specific gravity. Systolic blood pressure was 136 millimetres of mercury. Until recently one would have been justified in giving a decidedly grave prognosis in these circumstances. Such patients rarely lived long. In spite of treatment prescribed the condition grew steadily worse and other advice was sought without the desired result. The systolic pressure had by this time risen to 174 millimetres and the outlook was decidedly grave. As a last resort it was resolved to try diathermy with at first no apparent result. After a couple of months of general treatment on the condenser couch there was obvious improvement. At the end of six months the systolic blood pressure was 110 millimetres of mercury, the urine of an amber colour and with a specific gravity of 1025; it was free of albumin. Needless to say there was a corresponding improvement in the general condition. For two months the improvement was maintained without treatment. At the end of that time there was a gradual recrudescence of the condition which rapidly responded to treatment. At present treatment has been ceased for the time being, as the improvement is being maintained (two months).

To my mind this one case alone would be sufficient recommendation of the potentialities of diathermy.

Most patients after the application of diathermy for a certain number of times, say half a dozen, remark on a feeling of well being and an increased ability for work or even an increased inclination for work.

In conditions of exhaustion, however, when the blood pressure is definitely below normal, diathermy will do harm, the subject becomes depressed and complains of an inability to sleep. Such patients would be more suitably treated by sparking with the non-vacuum electrode.

This electrode is also suitable in cases of hysterical aphonia that do not respond to other treatment.

Several months ago a patient came with a complete left hemianæsthesia. His condition had been worse, but by much labour and psychoanalytical methods of treatment by exponents thereof he partially recovered; only the anæsthesia remained. A little suggestion and a very long painful spark along his spine succeeded in removing the anæsthesia from the left eye in one day. In a little over a month there was complete recovery.

These are sufficient indications of the medical uses of diathermy. For special applications such as the treatment of gonorrhœa in the male and female with descriptions of the special applicators designed for these treatments you would do well to consult a text book such as that by Corbus and O'Connor.

Numerous surgical uses for diathermy will occur to you when you consider its ability to produce any desired degree of heat to a considerable depth in the tissues.

The effect is altogether different from that of the actual cautery which, producing heat at the surface, depends on the very feeble powers of conduction of the tissues to convey heat below the surface.

By varying the size of the electrode and by varying the amount of current flowing the depth of the destroyed tissue can be nicely regulated.

For superficial growths, such as moles and nævi the monopolar spark will provide an arc which will desiccate the growth without any unnecessary destruction of the deeper tissues. Another method which can be used in these cases and which will give a small spark that can frequently be applied without the use of an anæsthetic of any sort, is the indirect method devised by Turrell.

The patient is charged on the condenser couch with about six hundred milliampères, the operator meanwhile approaching a pointed metallic object to the tissue to be destroyed. A fine spark about a sixteenth of an inch long is produced which acts by desiccating the tissue treated.

For larger masses of tissue or where malignancy is suspected, the bipolar method is required. With practice one becomes adept at destroying only the amount of tissue desired. It is necessary to remember that a greater destruction is brought about than is at the time apparent, the destruction going beyond the area of visible coagulation.

Great care should be taken to stop the current immediately any sparks appear at the edge of the electrode, otherwise charring will occur and this is decidedly undesirable. The destroyed tissue acts as an aseptic dressing until healing is well established and it is no doubt on this account that the scar remaining is soft and free from fibrous contraction.

Where hæmorrhoids have been removed by this method, the pain is seldom so pronounced as after any of the surgical procedures. The operation may be performed under local anæsthesia in the surgery and there is no contracting scar subsequently to

need stitching. There are still further uses for this potent ally of the therapeutist, but enough has been said to make appreciated how much those general practitioners may miss who do not take into consideration the advantages both to their patients and to themselves of diathermy.

RADIOGRAPHY OF NASAL ACCESSORY SINUSES.[1]

By K. Stuart Cross, M.Sc., M.D.
Lecturer in Radiology, University of Melbourne.

I wish to express my appreciation of the honour of having been invited to open this discussion on the diagnostic value of X rays in rhinology. I shall do so by describing our technique in its present stage of evolution and demonstrating the results obtained.

The patient sits up before a Potter-Bucky diaphragm and in the usual routine examination the following five films are taken:

1-2. Stereoscopic postero-superior oblique views with the nose and forehead against the diaphragm —the "nose-forehead" pair;

3. A postero-anterior view with the chin on and the nose off—the "chin-nose" view;

4. A lateral view;

5. A vertical view.

Let us deal first with the general question of the position of the patient.

Almost universally the latter lies on the table, while above him is the tube, projecting a vertical ray through his head on to the film-holding cassette which in turn may be either flat on the table or tilted at an angle to the latter.

A moment's consideration will show that with this arrangement it is impossible to detect a fluid level. For this we must have the patient erect and the rays horizontal.

With the latter relationship of the tube and patient, an empyema in one of the maxillary antra, for example or residual fluid after irrigation throws a typical, pathognomonic shadow of the fluid with its horizontal surface and air above it.

Turn the patient on to his face with the tube overhead and all we shall get will be a film showing a more or less uniform radiopacity over the whole of the affected sinus, indistinguishable from the appearance presented by generalized mucosal hypertrophy.

It is difficult to understand the way in which this fundamental principle has been ignored.

It is also usual for the films to be taken without the Potter-Bucky diaphragm, using a small cone so as to limit the field irradiated and so minimise the scattering rays. I have tried both methods, but have been unable to convince myself that the slight gain in detail owing to the closer approximation of the patient to the film in the absence of any interposed diaphragm compensates for the loss of contrast entailed by not using the latter.

Turning next to a discussion of the various views, I shall deal first with the "nose-forehead" stereoscopic pair of films.

This particular view is usually obtained by supporting the cassette and the patient's nose and forehead on an inclined plane making an angle of 23° with the horizontal, the tube being vertically overhead or, alternatively, having the patient's nose and forehead flat on the table and tilting the tube 23° to the vertical. With us the patient sits facing the diaphragm with forehead and nose firmly against the latter. The tube is above and behind, tilted downwards at the necessary angle.

In this position the ethmoidal cells are brought as closely to the film as is possible and this pair of films is taken especially for their investigation.

A single film may easily lead to fallacious conclusions. If taken from a point, say, to the right of the median sagittal plane the shadow of the nose will be superimposed on that of the left ethmoids, making the latter appear less radiolucent than their fellows on the right.

With the patient placed in position with reasonable care, however, the stereoscopic view insures either a pair of symmetrical views, one from either side of the median sagittal plane or else one of the pair will be found to have been taken from a point in or very close to that plane. Thus we get correct comparison of the right and left cells—either by comparing the two symmetrical members of the stereoscopic pair or the two sides of the single view taken from a point in the median sagittal plane. Stereoscopic examination of the films further confirms the findings, placing the shadows for us in their correct antero-posterior depth.

Occasionally we take a "triple" stereoscopic set—one in the median position and one from either side. This gives us three stereoscopic pairs and increases the chance of getting one absolutely central view or one pair that is symmetrical.

The angle of 23° was chosen originally so as to throw the heavy shadows of the dense petrous bones midway between those of the ethmoids and maxillary antra respectively, so as to admit of the examination of both in the one film.

This view of the maxillary antra, however, is of little value and may even be quite misleading.

It is a matter of the varying background with even slight alteration of the point of view, the antra in these "nose-forehead" films being projected against the highly irregular pattern of the base of the skull. Thus in the stereoscopic pair of films exhibited the left eye member shows the right antrum apparently less radiolucent than the left, whilst the right eye view produces exactly the opposite effect. One can see, then, how in this case

[1] Read at a conjoint meeting of the Radiological and Ear, Nose and Throat Sections of the Victorian Branch of the British Medical Association on May 26, 1927.

two radiologists, each relying on a single "nose-forehead" film of the antra of the same patient, might return diametrically opposite reports.

Having practically discarded this view so far as the maxillary antra are concerned, we are free to choose the optimum angle for showing the ethmoidal cells.

With the standard 23° angle we frequently find the posterior ethmoidal cells obscured by the tips of the petrous bones. At present we are working on 30° which throws the petrous bone shadows sufficiently far down out of the way.

It is on the "chin-nose" view that we mainly rely for our investigation of the maxillary antra.

The patient's chin is against the face of the diaphragm and the nose 2·5 centimetres (an inch) or so off, with the tube directly at the back so that the rays passing through the antra are horizontal.

Here the petrous shadows are thrown below those of the antra, the latter being projected against the uniform field of the parietal bones.

The rays being horizontal any fluid (pus or residual irrigating solution) is clearly identified.

This view similarly shows the fluid levels in frontal empyemata and along with the "nose-forehead" pair of films is of great use in investigating generally the frontal sinuses.

The lateral view is primarily used together with the vertical for determining the condition of the sphenoidal sinus. It is often, however, also valuable in locating polypoid masses in the antra in their antero-posterior depth.

Stereoscopic lateral views are useful, but are not, I think, necessary when we have the vertical.

The anatomical pattern of the sphenoid varies within wide limits. We have investigated these variations somewhat extensively, making use of the vertical view which shows with great clearness the anatomical structure, giving in fact a ground-plan, as it were, of the whole paranasal sinus system.

To obtain this view the patient sits very much as for the "chin-nose" one, but with the head thrown further back if possible. The rays are directed downwards and forwards through the crown of the head, almost parallel to the plane touching nose and forehead. This throws the shadow of the sphenoid just behind the point of the jaw and gives an uninterrupted view of it from above.

Inspection of the films exhibited shows how seldom is there a symmetrical subdivision or even aeration of the sphenoidal sinus. The septum may be oblique, L-shaped or S-shaped.

It is nearly always possible to coordinate the vertical and lateral views. Thus when the vertical shows a gothic window pattern with the posterior boundary of the sphenoidal sinus made up of three arcs, there will be seen in the lateral view three more or less parallel arcuate vertical lines, representing the three segments of the posterior boundary of the pneumatized portion.

Frequently the vertical view is essential in interpreting the appearance seen in the lateral film. Thus the extension of one compartment further back than the other explains the partial loss of radiolucency posterior to the shorter cell; whilst with one patient, referred to me only last week by Dr. Clive Eadie, it elucidated an anomalous gain in relative radiolucency in the most posterior portion of an otherwise pathologically opaque sphenoid.

The vertical view showed that the right hand cell extended further back than the left and that it was considerably enlarged posteriorly so as to pass across to the left behind the left-hand cell which thus occupied an antero-lateral position. Further it demonstrated that the right cell was approximately

LEGENDS TO ILLUSTRATIONS OF ARTICLE BY DR. K. STUART CROSS.

Figure I is a "chin-nose" view, showing uniform mucosal hypertrophy in the left maxillary antrum, leaving a clear central air space. Similar changes are seen in the right antrum, except that the residual air space is less radiolucent than that on the left side, indicating the presence of polypoid formation.

It will be noted that there is no pus present. (Compare with Figure II and also with the normal left antrum in Figure IV.) There is also slight mucosal thickening in the right frontal sinus.

Figure II is a "chin-nose" view demonstrating an empyema of the left maxillary antrum. The fluid level is obvious. It can be shown, however, only in films taken with horizontal rays and the patient erect. The mucosa is slightly thickened so that the fluid does not extend quite to the lateral wall.

In the right antrum the mucosal hypertrophy is gross, leaving only a small residual air space which, again, is half filled with pus.

Figure III is a "chin-nose" view presenting a normal left maxillary antrum which will serve for comparison with the various pathological antra illustrated. The right antrum is completely and uniformly opaque.

Experience shows that antra presenting this appearance are packed with polypoid masses, between which there may or may not be pus.

Figure IV is a "nose-forehead" view of the same patient as in Figure III. This shows how the detail of the maxillary antra is obscured by the shadows of the petrous bones. The ethmoids, however, are now well demonstrated.

There is slight mucosal hypertrophy in both right and left anterior ethmoidal cells and also in the right frontal sinus.

Figure V shows a large solitary mucosal mass in the left maxillary antrum. It should be noted that such masses present convex free surfaces, as contrasted with the horizontal fluid surfaces. (Compare with Figure II.)

Figure VI is a lateral view of the same patient as in Figure V, showing that the mass is based on the whole of the antral floor with the exception of the posterior quarter of an inch.

Figure VII is a "vertical" view showing "ground plan" of the accessory sinus system. There are no inflammatory or other pathological changes present. The sphenoidal sinus is seen to be divided into a large right hand cell, *R*, with its walls meeting posteriorly at a relatively acute angle, *P* and a much smaller left hand cell, *L*, situated antero-laterally.

Figure VIII is a "vertical" view showing an accumulation of polypoid masses on the mesial two-thirds of the anterior wall and the anterior third of the nasal wall of antrum. (Compare with the normal appearance in Figure VII.)

It exemplifies the value of this view in confirming the presence of pathological masses in the antra and determining their position in antero-posterior depth; as well as for investigating the sphenoidal sinus.

normal whilst the left one was opaque, presumably owing to inflammatory changes. We were thus enabled to diagnose a left-sided sphenoiditis and to account for the peculiar lateral appearance of a sphenoid opaque in its anterior three-fourths and normally radiolucent posteriorly.

In these vertical films we also get excellent views of the maxillary antra which, taken in conjunction with the "chin-nose" film, frequently enable us to locate polypi on the anterior or other walls, besides confirming generally our deductions from the "chin-nose" view.

As already stated, these five views constitute the routine set and between them give us a ground plan and both front and side elevations of all the accessory sinuses.

There are, however, additional views of which use is sometimes made.

The most important of these is probably the antero-superior oblique. Here the patient sits with back to film and chin on chest, whilst the rays are directed downwards and backwards through the forehead so as to project the upper part of the sphenoidal sinus on the occipital bone just above the *foramen magnum*.

The sphenoidal septum and roof, together with the *dorsum sellæ*, are well shown and a case will be presented in which this view was of great value in demonstrating a unilateral sphenoiditis.

An alternative view is obtained with the patient's forehead centred on the film and the ray directed upwards and forwards through the occiput, along the same line, only in the reverse direction.

Though the sphenoid is nearer the film in this second oblique view, the latter is not necessarily the better one. The sphenoidal shadow will certainly be sharper, but it tends to be obscured by the still better definition of the frontals and ethmoids. In the antero-superior oblique view, on the other hand, the latter shadows are greatly diffused and there is nothing else in the region of the sphenoidal shadow except the more or less uniform one of the occiput.

In the accompanying illustrations the main points referred to above are exemplified.

THE NON-ORGANIC DYSPEPSIAS.[1]

By Frank L. Apperly, M.A., M.D. (Oxon), D.Sc. (Melb.),
Honorary Physician to Saint Vincent's Hospital, Melbourne, with charge of Outpatient Gastro-Intestinal Clinic. Senior Lecturer in Pathology, University of Melbourne.

First of all I want to express to you my sincere thanks and appreciation of the honour you have conferred on me by inviting me to deliver these lectures at your annual post-graduate week.

In casting round for a subject I thought I could not do better than deal with the involved question of dyspepsia, so common, so often wrongly diagnosed as to cause and so often wrongly treated.

[1] A Summary of Lectures delivered at the Post-Graduate course, Brisbane, on August 1, 2 and 3, 1927.

I do not propose to deal with those dyspepsias due to organic lesions of the stomach and intestine, except for some points in diagnosis, because I have nothing new to add to what you already know.

It is that type of dyspepsia which is merely a symptom of change elsewhere in the body, so commonly treated as a disease in itself, that I propose to speak about. In treating these dyspepsias we merely pour water on the fire-alarm and not on the fire, as Alvarez says.

Much of the mechanism of dyspeptic symptoms is not understood and consequently treatment has been largely empirical. In these lectures I am attempting to present some of the modern notions about the mechanism of symptom production, how to trace symptoms back to their origin, to build up on this knowledge a rational, practical, scientific method of treatment and to explain known methods of treatment.

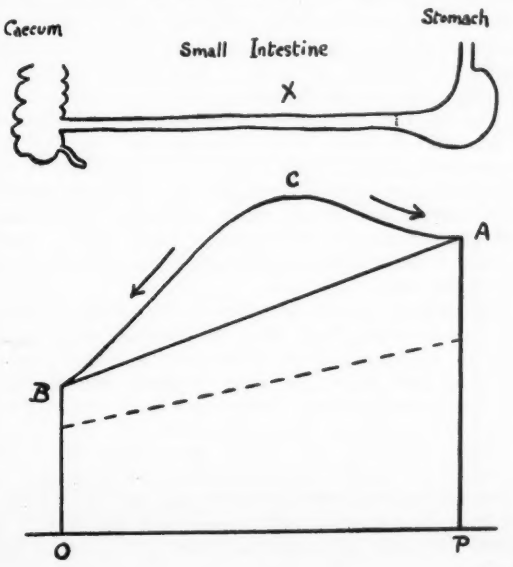
To accomplish this I will deal with my subject under three heads: (i) The mechanism of gastric symptoms; (ii) alterations in the body producing gastric symptoms; (iii) principles of diagnosis and treatment.

The Mechanism of Gastric Symptoms.

The Gradient Theory of Alvarez.

Probably the most useful conception of the mechanism of the gastro-intestinal tract which we have for helping us to obtain a clear understanding of pathology, diagnosis and treatment is Alvarez's gradient theory.

It is known that the tonus, irritability and general activity of the neuro-muscular mechanism of the gastro-intestine diminish from point to point from stomach to ileo-caecal valve. This downward gradient of activity depends upon a similar grade of metabolic activity and blood supply. This falling gradient can be graphically represented by the line



A B in the accompanying figure, where the height A P represents the activity, blood supply *et cetera* at the upper end of the tract and the height B O that at the lower end.

Now food will always travel in the direction of the fall in the gradient, that is, from those points of high neuromuscular activity to those of lower activity. Again the rate of food movement is governed by the steepness or otherwise of the gradient.

Under various conditions the gradient may be altered. As a gross example suppose a mild enteritis about the point X. The hyperæmia and increased activity about this point may now be represented by the height of C above the base line O P. The upper part of the intestine now has a reversed gradient with resultant movement of intestinal contents along C A (vomiting) and an increased rate of movement down the steepened gradient C B (diarrhœa).

In addition to local lesions general conditions may also alter the "steepness" of the gradient. Depressing conditions, such as interference with oxygenation, always far more adversely affect tissues of higher activity than those of a lower grade of activity. Hence we find not only the gradient A B reduced to a lower level, but the more active metabolism in the region of A falls to a greater extent than does that in the region of B. In other words, the gradient is "flattened" or gastro-intestinal tonus and activity are diminished, with a slowed passage of food along the tract.

Conversely in conditions of higher metabolism—in youth, athletic types, males rather than females, cold *et cetera*—we find a "steepened" gradient with or a tendency towards hypertonus, hyperperistalsis and more rapid movement of food along the tract.

As already mentioned the "steepness" of the gradient appears to be mostly a matter of blood supply, that is, of oxygen supply or ability of the tissues to utilize oxygen. Anything that interferes with oxygen utilization will therefore diminish gastro-intestinal activity and produce a flattened gradient, marked by gastric hypotonus and hypoacidity (see next section).

During the last year Miss Kathleen Semmens, B.Sc., and I have found that gastric acidity and tonus vary (i) directly with the bicarbonate of the blood plasma and (ii) roughly inversely as the red cell content of blood, when different individuals are examined and compared. These facts would appear to be related to what has gone before in the following way.

Inability to utilize oxygen in the tissues leads to increased respiration, this in turn to a "blowing off" of carbon dioxide with low alveolar carbon dioxide and hence to low plasma bicarbonate. Plasma bicarbonate is therefore a fairly good index of gastro-intestinal tonus and activity.

Again Haldane has shown that such an oxygen shortage is partly compensated by an increased red cell count, so that the latter would be high in cases of low gastro-intestinal tonus and activity. By three different methods we have shown that this is so.

I will now proceed to apply the gradient theory to the explanation of gastro-intestinal symptoms.

The "Regurgitative" Group of Symptoms.

After food begins to leave the stomach there is normally a certain amount of regurgitation of duodenal or duodeno-jejunal fluids into the stomach, with the result that gastric acid is partially diluted and neutralized. The amount of regurgitation depends on (i) the quality of the fluids entering the duodenum from stomach (see next section), (ii) the duodeno-jejunal neuro-muscular activity or the "steepness" of the gradient.

In conditions where the gradient is flattened (depressing general states, local interference with gastric tonus or irritative conditions of the lower part of the intestine tending to raise the lower end of the gradient) this normal regurgitation is increased, with the result that free acid in the upper part of the duodenum is more rapidly neutralized, the pylorus more readily opens and gastric acidity falls. When the flattening is pronounced or the gradient even reversed, we have vomiting and nausea, as already explained. In mild cases, however, with a diminished gradient and low gastric tonus the symptoms produced by this increased regurgitation are eructations, regurgitations of food along the œsophagus, belching, heartburn, coated tongue, bad breath, nausea and even vomiting. Constipation also accompanies the fall in neuro-muscular activity. This group of symptoms is therefore an important one, because it gives a clear picture of the state of the gastro-intestinal activity.

That nausea is associated with a fall in gastric tonus, probably with an open pylorus, has been demonstrated radiographically. Vomiting is merely a further stage of nausea, except probably in certain nervous states.

Heartburn is often believed to indicate a hyperacidity. My own records show several instances of patients having achlorhydria exhibiting this symptom. It is probably due to spasm of the cardiac orifice.

Incidentally the gradient theory makes it easy to understand some of the reasons why the operation of gastro-enterostomy is sometimes a failure: (i) When gastric tonus is low, that is, when there is a flattened gradient, the existing tendency to regurgitative symptoms is facilitated by the gastro-enterostomy which may therefore lead to nausea and vomiting after operation. The gastro-enterostomy should be undone. (ii) When gastric tonus is high, with rapid emptying, that is, a steepened gradient, the normal reflex is greatly diminished in spite of the short circuiting. The gastric acidity therefore remains high even after operation, as in the great majority of duodenal ulcers and may lead to jejunal ulceration. An understanding of the gradient theory would seem therefore to help in the selection of cases suitable for operation.

Variations in Duodenal Regurgitation.

The gradient theory accounts for variations in the amount of duodenal regurgitation into the stomach due to changes in intestinal tonus and irritability. But it is obvious that alterations in

the fluid contents of the stomach entering the duodenum will also have their effects. Irritating substances may produce nausea and vomiting by their effect on the duodenal mucosa. A strong salt solution is a simple instance of this.

Far short of this, however, is the mild duodenal regurgitation that normally occurs when fluid enters the duodenum from the stomach. Before the intestine will accept this chyme it must be of a certain salt strength or osmotic pressure, roughly equal to that of blood plasma. It appears that anything short of this is a potential irritant, hence the early portions of chyme entering the duodenum, being weak in secreted acids and salts, are rejected by the intestine and returned to the stomach. In this way pancreatic alkali reaches the stomach and so gastric acid is diluted and neutralized. Gastric acidity is therefore largely dependent on the amount of duodenal regurgitation of this type also and is obviously modified by the addition of salts to the food. The importance of this will be seen later under the heading of treatment.

Appetite: Hunger: Anorexia.

The brain does not appreciate ordinary stimuli of touch, heat, cold, chemicals *et cetera* (apart from injury resulting) applied to the stomach. All we are aware of in the hollow organs, are changes in muscle tension and it depends upon the function of the organ whether it is diminished tension or increased tension that elicits a sensation in the brain. Thus the function of the rectum is to evacuate, therefore its state of awareness is fullness; the function of the stomach is to replenish, therefore its state of awareness is emptiness and sometimes overfullness.

Now gastric muscle tension depends on several factors: its tonus and peristaltic activity, elasticity of stomach wall, bulk and rate of introduction of food and the patency or otherwise of its cardiac and pyloric orifices. Hence all gastric feelings or sensations—appetite, hunger, fullness, pain—are due to different combinations of the above factors.

Whatever may be the ultimate cause, appetite largely depends upon and is accompanied by good gastric tonus. When in addition to good tonus there is peristaltic activity or waves of peristaltic activity are present, the sense of hunger is produced.

Hence appetite can be lost by anything that interferes with tonus activity of gastric muscle. This may come about by: (i) Interference with general metabolism or oxygen supply and utilization—oxygen shortage, heart and lung diseases, fevers, fatigue *et cetera*; (ii) nervous influences of an inhibiting character—some cases of emotion, worry *et cetera*; (iii) organic changes—fibrosis, adhesions, carcinoma. The symptom of anorexia is therefore a most important one, since it indicates many possibilities.

Fullness: Discomfort: Pain.

Normally gastric muscle reflexly adapts itself to change of volume of its contents, so that it just grasps its contents with a certain definite pressure of about four to six centimetres of water.

If this pressure be increased by failure of the gastric wall to accommodate itself to the stomach contents, we get first a sense of fullness, later discomfort and pain. These can readily be demonstrated by blowing air into the stomach through the Rehfuss tube or, as Kinsella observed, by rapidly drinking a large volume of water. Gastric acidity of itself cannot cause pain. I have often placed hydrochloric acid of strengths far above that seen in any patient into the stomachs of normal students and patients without producing the least sensation. It is possible however that high acidity in the presence of a lesion may produce pain. This will be referred to later.

Fullness, discomfort and pain then can be caused: (i) by inability of the stomach to relax when food enters as in some cases of hypertonus and in organic changes in the gastric wall (carcinoma, fibrosis, gastric ulcer); (ii) when the normal increase of gastric tonus that follows a meal, is accompanied by a diminished emptying rate due to pyloric obstruction; (iii) when the power of adaptability is reduced by lack of gastric tonus; (iv) by further additions to gastric volume in addition to food beyond the relaxing power of the stomach, as occurs with air swallowing and when duodenal regurgitation is augmented.

The further diagnosis of the cause of fullness and pain can be made by a consideration of the accompanying symptoms. When fullness is accompanied by good appetite, we generally find a small hypertonic stomach; with anorexia and general ill-health hypotonus is indicated; with anorexia and definite local symptoms structural disease is the most likely.

I am inclined to think that pyloric spasm may be the cause of pain in some cases. Here are two interesting cases:

Case I.—A healthy doctor, having dined well, awoke one morning at 4 a.m. with epigastric pain. Being of an inquiring turn of mind, he swallowed a Rehfuss tube and drew off about two hundred cubic centimetres of fluid with acidity of 110. After thoroughly washing out his stomach with warm water, he went to bed. Pain continuing, at 6 a.m. he swallowed about three grammes (fifty grains) of sodium bicarbonate, but with no effect. At 8 a.m. he ate some crusts of bread and butter and his pain disappeared.

It seems to me that there was for some unknown reason (possibly a mild duodenitis) unneutralized highly acid fluid lying in the upper part of the duodenum, producing pyloric spasm. Hence the failure of emptying the stomach, washing it and swallowing alkali. When the pylorus was opened by food, however, the duodenal acid was diluted or destroyed and spasm disappeared.

Case II.—Two hundred and fifty cubic centimetres of 0·4 hydrochloric acid were given to a man in whom all the pancreatic deficiency tests yielded positive results. Pain followed, the only occasion on which I have seen acid produce pain.

It seems that with failure of neutralization of duodenal acid by pancreatic alkali pyloric spasm occurred and remained, producing pain. The acid placed in the stomach was neutralized much more slowly than normally.

The following is another interesting example in which high acidity seems to have been at least one of the factors in producing pain:

Case III.—A healthy student was given a fractional test meal. On the two following days he had pain and vomiting an hour or so after meals. He then recovered. He showed an acidity of 98 at two hours, the highest I have seen in a normal man.

It seems probable that the Rehfuss tube caused a small erosion of his gastric mucosa with spasm in the presence of high acid.

Time of Pain.

Ryle divides pain of gastric origin into two main classes, early and late.

Early pain, occurring within an hour of meals, seems to be due to a localized spasm or shortening of muscle fibres in the stomach, with the result that there is a failure of the normal relaxation when food is introduced or when regurgitation occurs into the stomach. An increased tension is thus brought about in the gastric muscle. This spasm or shortening may be due to gastric ulcer or reflex causes. Relief of pain therefore is brought about by relieving this tension whether by vomiting, fasting, or by the use of alkalis which appear to act in two ways, namely, quickening the rate of emptying of the stomach and by evolving carbon dioxide, leading to opening of the cardiac orifice with belching.

Late pain is that occurring two to five hours after a meal. When a stomach with good tonus and peristalsis and a spastic pylorus is nearly empty, a deep peristaltic wave, driving a small volume of contents into the pyloric end, may completely occlude the gastric lumen at a point within a few inches of the pylorus. The small fluid mass is now imprisoned in the *antrum pylori* (i) in front by a spastic pylorus, (ii) behind by an occluding deep peristaltic wave and (iii) at its sides by the muscle of the pyloric antrum. Normally the pressure exerted behind and at the sides of the mass is sufficient to force the fluid through the pylorus without pain, even though the stomach be hypertonic. But with a tightly closed pylorus the pressure of an active gastric musculature increases the tension to such an extent that pain follows. The conditions necessary then for the production of late pain are (i) a stomach of active musculature and peristalsis, (ii) a stomach so nearly empty that a deep peristaltic wave is able to occlude the gastric lumen at that point as it approaches the pylorus, and (iii) a spastic pylorus, due to reflex or central causes, to duodenal ulcer or to free hydrochloric acid in the duodenum, resulting from the diminished regurgitation and neutralization that accompanies a steepened gradient.

Obviously such a pain can be relieved by: (i) Opening out the stomach so that the imprisoning peristaltic wave no longer occludes the antrum. This can be accomplished by increasing the bulk of gastric contents as by food, drink or the evolution of carbon dioxide by alkalis. (ii) Preventing closure of the pylorus in some cases by the early exhibition of alkalis. (iii) Gastro-enterostomy or partial gastrectomy.

It is of interest that a patient complaining of late pain, diagnosed by a good surgeon as due to duodenal ulcer, was found on operation to have only a "red stomach." Apparently the hyperæmia, of which the cause was unknown, had so steepened the gradient or increased the gastric activity that late pain resulted in the way already described.

The diagnosis of the cause of gastric pain requires a very careful inquiry into the following points which are of great importance: (i) character and severity of pain, (ii) frequency and duration, (iii) localization and radiation, (iv) initiating and aggravating factors, (v) relieving factors.

It is of especial importance to see an attack of the pain, because this more clearly defines and localizes the pain, it unmasks reflex causes and the effects of food or fasting can be noted.

From the above five points alone a moderately close diagnosis can be made in the majority of cases of dyspepsia or at any rate the type of dyspepsia is almost certainly revealed.

Again it should be remembered that pain of visceral origin is closely associated with the function of that viscus and is due to perverted function rather than structural disease. An absence of such relation therefore generally indicates pain of extra-gastric origin.

Flatulence of Stomach with Belching.

Gas in the stomach may be produced by:

1. Fermentation. This is seldom and only in cases of gastric stasis and absent free hydrochloric acid. The gas eructated is foul.

2. Secretion of carbon dioxide from the blood into the stomach. This has been shown to occur in some circumstances and may account for the flatulence of cardiac disease with blood overloaded with carbon dioxide, but it is doubtful if it ever occurs in other circumstances.

3. Swallowing of air is by far the most important and may be due to: (i) A sense of fullness due to any of the causes already mentioned. We swallow in an attempt, largely unconscious, at relief and really aggravate the condition. (ii) Insufficient mastication of food bolters. (iii) Dry mouth and pharynx—alcohol, neuroses, sore throat, tonsillitis *et cetera*.

These patients have a good appetite, no loss of weight and good health and contrast with those in whom flatulence occurs with regurgitative symptoms due to lower gastro-intestinal tonus.

As these conditions are so commonly diagnosed and treated incorrectly, I am giving the notes of three patients.

Case IV.—A male, aged twenty-eight years, complained of epigastric distension with belching of wind a half to two hours after meals. He had a good appetite, no nausea, no loss of weight, a healthy ruddy appearance, naso-pharyngeal catarrh. Local treatment, explanation and a little advice resulted in complete cure.

Case V.—A male, aged thirty-six years, complained of flatulence and fullness at any time up to one hour after meals, relieved by soda with belching, aggravated by worry and constipation. He had no loss of weight, he looked

ILLUSTRATIONS TO THE ARTICLE BY DR. K. STUART CROSS.

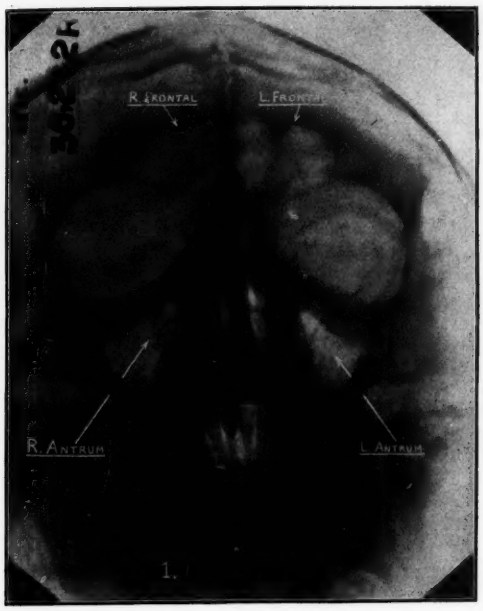


FIGURE I.

FIGURE II.

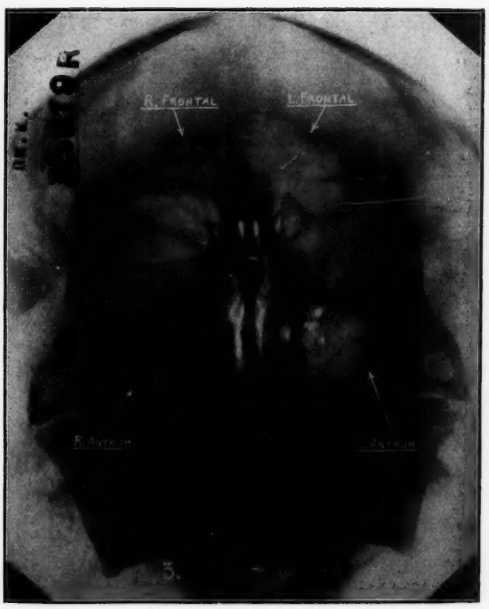


FIGURE III.

FIGURE IV.

ILLUSTRATIONS TO THE ARTICLE BY DR. K. STUART CROSS.

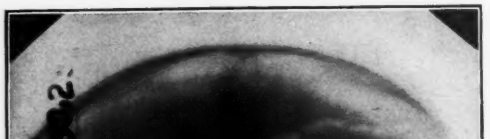


FIGURE V.

FIGURE VI.

FIGURE VII.

FIGURE VIII.

well and had a good appetite. He had chronic pharyngitis and pus was present in the tonsillar crypts, treatment of this cured his trouble.

Case VI.—A male, aged thirty years, complained of belching of wind, unrelated to food, relieved by alkalis, initiated by worry. He had epigastric fullness and poor appetite; he was a heavy smoker with chronic pharyngitis. Local treatment and advice resulted in a letter from him two months later that he "was 85% better."

Sinking Feeling.

A "sinking feeling," too readily developed after meals and relieved by food, generally indicates a hypertonic and rapidly emptying stomach. The test meal reveals an achylia or a rapidly rising acidity curve of the climbing type. I have seen this latter type running in families (see Case X). A sinking feeling may also appear after gastro-enterostomy and carcinoma of the pylorus after ulceration has left only a rigid pyloric ring. It is often accompanied by painless morning diarrhœa or after meals and discomfort round the umbilical region soon after meals.

Causes Producing Dyspeptic Symptoms.

From what has been said, it will be seen that dyspeptic symptoms are of muscular origin or arise from interference with muscular mechanisms, due in general to some failure of adaptation of gastric tension to gastric volume. I am of course excluding those gross changes such as carcinoma and some ulcers where the nerve fibres are so involved as to produce more or less continuous pain.

Almost all the non-organic dyspepsias can be divided into two main classes, according to whether the gastro-intestinal gradient is flattened or steepened. In the former case we have the hyposthenic type of dyspepsia, marked by early appearance of fullness or pain, with eructations, heartburn, anorexia, nausea, perhaps vomiting and low gastric tonus and acidity. The whole of these symptoms is due to a disproportionate activity of the lower intestinal musculature, either relative (as in conditions of general bodily depression) or actual (as in pelvic and lower abdominal conditions).

With a steepened gradient we have the hypersthenic type of dyspepsia, marked by late pain, good appetite and high gastric acidity and tonus. This condition is due to a disproportionate activity of the musculature of the upper part of the gastro-intestinal tract due to general, nervous or local conditions. In this type there is a tendency to over-rapid emptying of the stomach with diminished duodenal regurgitation and failure to neutralize duodenal acidity as rapidly as normally, with the result that the pylorus remains closed longer and more tightly than usual and the stomach, rapidly emptying at first, later empties more slowly. In other cases the pylorus may remain closed owing to reflex or central nervous causes. The result is late pain.

On Alvarez's gradient theory I have constructed a classification of dyspepsias which is, I think, the simplest and the most practicable from all points of view (see Appendix A).

This classification is sufficient to show how the investigation of a case of dyspepsia requires an examination of almost every organ in the body. Again it must be remembered that the emotional and nervous character of the patient alters the response of consciousness to reflexes. This will be dealt with later on.

A glance at the previous figure will suggest that the gradient may be "flattened" in three ways: (i) by general depressing conditions (as has already been explained), (ii) by raising the lower end of the gradient, as by inflammations in the region of the lower ileum and appendix or pelvic conditions and (iii) by lowering the upper end of the gradient by local fibroses with destruction of gastric tonus and activity.

There are some forms of this type of dyspepsia that we might almost term "physiological." Take simple cases of diminished oxygen supply. Not only does the body fail to obtain sufficient oxygen for its own needs, but it rejects the imposition of any work that will entail more oxygen requirements, for example digestion of food. Hence the flattened gradient and vomiting of balloon and mountain sickness and carbon monoxide poisoning, also the eructations accompanying active exercise on a full stomach and the retching sometimes seen in contestants after a boat race. In these last two instances the side-tracking of blood to the limb muscles has produced a diminished blood and oxygen supply to the gastro-intestinal muscle with flattening of the gradient.

Other causes of "flattening" in the classification are too familiar to require examples. I will therefore content myself with one or two that gave trouble in diagnosis.

"Flattening" due to general metabolic depression is exemplified in the following history.

Case VII.—A male, aged thirty-one, with pulmonary tuberculosis and tubercle bacilli in the sputum, complained of pain in left epigastrium, constant, sharp, present all day, not related to meals (and therefore probably not due to any gastric dysfunction), nausea, eructations, flatulence, frequent vomiting at any time up to one hour after meals and variable appetite. The condition was diagnosed elsewhere as tuberculous ulcer of stomach. X rays failed to reveal any sign of ulceration. The pain and the regurgitative symptoms were of different origin.

"Flattening" due to uterine displacement is exemplified in the following history.

Case VIII.—A female, aged twenty-eight, married, complained of nausea for two years, unrelated to food, especially at night and before her periods. The nausea was relieved only by food and by lying on her face or on her right side. It was aggravated by excitement or pressure over the anal region. She complained of severe constipation, had an excellent appetite, but frequent micturition since childbirth three years previously. The uterus was retroverted and tilted to the left side. Replacement has cured the nausea.

"Flattening" due to an old colitis is exemplified in the following history.

Case IX.—A female, aged forty years, single, suffered from paratyphoid fever and bacillary dysentery in the East in 1921. She had had ill-health ever since with anorexia, especially for meat, flatulence and fullness one hour after meals, eased by alkali and lying on the face, eructations and return of food to mouth three to four hours after meals. She was tall, thin, had a narrow costal

angle, tenderness along the descending colon and her kidney was readily movable. X ray examination revealed a hypotonic but otherwise normal stomach. Spasms were present in the descending and iliac colon with stasis proximal to this.

Again various influences, general and local, can "steepen" the gradient and so lead to the hypersthenic or late pain group of dyspepsia, of which the group of symptoms accompanying duodenal ulcer is a typical example. It is interesting to observe that all those influences, tending to raise general metabolism, are also those associated with or those which aggravate the symptoms of duodenal ulcer. Of those causes of steepening due to central nervous influences I will have more to say anon. They are akin to the neuroses.

It will be noticed that of all the influences mentioned in the classification some are inborn, part and parcel of the individual's make-up, his diathesis. Others are the result of disease. Very often each of these alone is insufficient to produce dyspepsia, but dyspepsia appears when the predisposition or diathesis is aggravated by a similar influence due to disease, for example when an influence tending to flatten the gradient is superadded to a person who already has a flattened gradient due to depressed metabolism.

Hence diathesis is of equal importance in the pathology and diagnosis of dyspepsia and to this I will now call your attention.

Predisposition or Diathesis.

Besides the normal, Hurst speaks of the two extremes of normality, the hypersthenic and hyposthenic gastric diatheses. By the hypersthenic diathesis he means that associated with a hypertonic stomach with active peristalsis and hyperacidity, while the hyposthenic diathesis is the reverse type. These types run in families and have been called by some the vagotonic and sympatheticotonic diatheses. These facts are important, because often much useful information can be obtained from the family history of the patient showing the type to which he probably belongs, and the information is often of great use in the unravelling of a "mixed" dyspepsia.

Characteristics of the Hypersthenic Diathesis.

It seems probable that two different types are mixed in what is to follow, but it is difficult to separate them. Persons with this diathesis comprise usually highly educated intellectual men, carrying heavy business responsibilities or professional men, worried and anxious, quiet, almost sleepy looking, sometimes deeply lined of face. They are generally non-drinkers, salivate readily and never have a dry mouth. They have an athletic past (swimmers and oarsmen, "wet-bobs," are very common). They can hold the breath for sixty seconds, they sweat freely, are often highly sexed and constipated (spastic).

The family history reveals often long-lived parents, a slightly neurotic, nervous, artistic temperament, asthma, hay fever, duodenal ulcer and often migraine.

On examination they are of the broad-chested or lean and nervous type, often with low blood pressure and slow pulse, sometimes with a sinking feeling, never with fullness and discomfort after meals unless they eat rapidly (gastric hypertonus); a tight descending colon is readily felt.

X ray examination reveals a normal or hypertonic stomach often rapidly emptying, and a test meal discloses hyperacidity and high total chloride. Plasma of "arterialized" blood has high carbon dioxide capacity (70 or over) and low chloride value.

These people are often operated upon for duodenal ulcer, appendicitis, gall bladder disease and what not with no improvement and often much disgust. This diathesis, however, does definitely predispose to duodenal ulcer, but does not cause it.

Case X.—A grandmother, mother and son, aged respectively ninety-two, sixty-four and thirty-six, all commonly have sinking feeling soon after meals, relieved by food. The grandmother had gall stones with hunger pain symptoms. The daughter was treated for years for duodenal ulcer, but her condition was really of nervous origin, disappearing some years ago on small doses of "Luminal." She often suffers with migraine, but no vomiting and she has "nerve storms." The grandson has hunger feelings and a sinking sensation, especially after cigarettes. This is readily relieved by food, but he cannot eat much, though he has a good appetite (hypertonus), nor can he drink a glass of beer at one "swoop." Sudden cold weather often brings on diarrhœa. Daughter and grandson have the same test-meal charts, a quick acid rise with emptying at three-quarter hour. Asthma, hay fever and eczema are in the family. All are intellectual and artistic. The grandson was athletic, with a pulse of forty-nine in training and a systolic blood pressure of 110 to 120 millimetres of mercury. A great-granddaughter is showing some of the same characteristics now. A cousin has suffered from gastrogenic diarrhœa for twenty-two years.

Among seventy-five students on whom I have made test-meals, the hyperchlorhydric group has by far the highest number of high honours and scholarships to their credit. In this group it seems as if the central (vagal) influences preponderate over the lower spinal (sympathetic) influences as regards the stomach and other organs supplied by these nerves.

Characteristics of the Hyposthenic Diathesis.

The patient with the hyposthenic diathesis is the common out-patient type of the public hospitals, where the opposite hypersthenic type is seldom seen. In well-marked cases they are depressed, thin, sallow, slack, flabby, "gutless," of lower mentality, anæmic and have atonic constipation. They often have a long narrow chest and narrow costal angle, a quick pulse and full doughy caecum. Special examinations reveal gastric hypotonus, low acidity and low total chlorides in the test-meal. The plasma of their "arterialized" blood shows a low carbon dioxide capacity (50 to 60) and high chlorides.

While on the question of diathesis it is interesting to note that achylia also commonly runs in families. Among my seventy-five healthy students, four have achylia. Of these the father of one died of pernicious anæmia; the mother of a second had rheumatoid arthritis and her test-meal showed complete achylia; the father of the third died of gastric carcinoma; but from the fourth I was not able to obtain any evidence indicating an achylia in his parents or brothers and sisters, except a vague anæmia.

sary. I have examined so far a number of sons and daughters of patients with proved gastric carcinoma. All but one have either achylia or a free acidity of less than ten, suggesting that achylia precedes carcinoma of the stomach. I hope to collect one hundred of these during the year.

There seems no doubt that achylia predisposes to intestinal infection. When digestive symptoms appear they are generally of the regurgitative type with flatulence, nausea, early discomfort *et cetera*, but sometimes with sinking feeling and diarrhœa.

Summary.

The variety of dyspepsia produced depends on two sets of factors.

1. Type of individual affected—normal, hypersthenic, or hyposthenic.
2. The causative agent—either producing a steepened gradient with late pain *et cetera* or producing a flattened gradient with early pain, discomfort *et cetera*.

In general the interaction of these two sets of factors will result in one or other of the two main types of dyspepsia:

1. Early pain, fullness, discomfort, with anorexia, nausea, eructations, vomiting *et cetera* (the regurgitative group) with low tonus and acidity, mostly in females or those with lowered metabolism, in the presence of influences tending to flatten the digestive gradient.

2. Late pain with good appetite, high tonus and acidity (duodenal ulcer type) mostly in males or those with high metabolism in the presence of certain central or reflex nervous causes or other factors tending to steepen the gradient.

Not all cases, however, are as simple as these. It is when we get the "mixed" types, for example flattening influences exerting their effects on a person with a steepened gradient and *vice versa*, that we have difficulties. Much thought is required to unravel the mechanism of these cases in order to arrive at a correct diagnosis.

Principles of Diagnosis and Treatment.[1]

Diagnosis.

Owing to lack of time and other reasons I cannot deal minutely with the question of diagnosis. I must be content with drawing particular attention to the following points which require consideration.

1. Pain. Careful notes of time, severity, duration, character, diffusion, localization, frequency, initiating and aggravating factors and relieving factors, will often give a pretty good idea of the cause of the trouble.

2. Flatulence, whether real or air-swallowing, whether accompanied by wasting or not, general disease or nervous symptoms, habits of eating and drinking, condition of mouth and pharynx.

3. The diathesis—family history and general personal habits and characteristics.

4. The importance of a thorough examination of all organs.

5. The importance of hyperæsthesia of the abdominal area.

6. Nervous dyspepsia (see later).

7. Special methods of examination—X rays, test-meals, occult blood *et cetera*.[2]

Treatment.

Although in all these cases with which I have been dealing—symptomatic dyspepsias—the treatment of the dyspepsia is the treatment of the causative disease, it is nevertheless important in most instances to deal with the dyspepsia itself in addition. The reason is, of course, that treatment of almost any disease demands good digestion, absorption and assimilation. A familiar instance is the treatment of dyspepsia in heart disease.

In addition then to removal of the cause the principles of treatment can best be discussed on lines similar to those used in my classification of dyspepsias.

Treatment of the Regurgitative Type.

Treatment of the regurgitative type, depending on a flattened gradient, marked by hypotonus and hypoacidity, anorexia, eructations, heartburn, nausea and vomiting, consists in steepening the gradient.

General measures consist in removal of the cause of defective oxygenation and stimulation of general metabolism by improving blood and heart action, easily digested food, abdominal massage, cold baths. The use of dilute hydrochloric acid will be dealt with later. Lately I have been trying "Hormotone" in suitable cases with, I think, encouraging results, of which, however, it is as yet too early to speak.

Local measures consist in:

1. Raising the upper end of the gradient by producing or stimulating gastric activity and the hyperæmia of function, by the use of hot water drinks, soups, meat, the stomachic drugs and the improvement of appetite by cleaning the tongue and giving tasty food.

2. Diminishing duodenal regurgitation by raising the salt strength of fluids entering the duodenum. This hastens emptying. Hence the use of dry foods, fluid between meals only, the exhibition of sodium bicarbonate or hydrochloric acid and the avoidance of fat.

3. By eliminating influences tending to raise the lower end of the gradient—constipation, pelvic disorders, appendicitis *et cetera*.

Treatment of the Hypersthenic Type.

Treatment of the hypersthenic type, depending on a steepened gradient, marked by late pain, relieved by food, good appetite *et cetera* consists in flattening the gradient.

General measures consist in application of warmth and the avoidance of cold.

Local measures consist in:

1. Dealing with nervous causes of central origin, by mental rest, bromides, "Luminal," belladonna

With regard to the achylic son of the man with gastric carcinoma a word of explanation is neces-

[1] A *résumé* of principles of diagnosis and treatment will be found in tabular form in Appendix B.

[2] A demonstration of special methods was given at the Children's Hospital, Brisbane, on the last day of these lectures.

or when of reflex origin by surgery or other measures.

2. Avoidance of irritants to the stomach which tend to produce hyperæmia and raised tonus, such as condiments, soup, coffee, alcohol, tobacco, hot food *et cetera*.

When duodenal ulcer is present then it is necessary to deal with the high acidity as well, either by neutralizing, diluting and combining it or avoiding those influences which stimulate its secretion. These need not be detailed.

Nervous Dyspepsia.

The influence of the central nervous system on gastro-intestinal function is well known and must consequently be closely considered in any derangement of function. Not only may function be altered, but the threshold of consciousness may also be lowered and must be allowed for.

One common result is an augmentation of gastro-intestinal muscle activity, presumably through the vagus, with resulting hypermotility, hypertonus, hyperacidity, sometimes vomiting without nausea, air-swallowing, borborygmi, consciousness of peristalsis and gurgling. Some or all of these symptoms may be produced. In the latter case the diagnosis is easy, but in the former there is often great difficulty in distinguishing symptoms from those of organic disease, for example duodenal ulcer. Take for instance that common type presenting only hypermotility, hypertonus and hyperacidity. Only too often there is an additional history of several abdominal operations by good surgeons with unsatisfactory results and a continuance of symptoms. These people do very well on small doses of "Luminal." Diagnosis will be dealt with later.

Case XI.—The patient was a man aged forty years with brilliant intellect, he was director of many companies and highly artistic. In 1918 worry and financial responsibility were associated with dull pain over the gall bladder which had no relation to meals. X ray examination revealed excessive tonus, peristalsis and motility. Hyperchlorhydria was found and duodenal ulcer diagnosed by his medical attendant who treated him with diet and powders. By 1922 his weight had dropped from 78·3 kilograms (twelve stone six pounds) to 59·8 kilograms (nine stone seven pounds), so he gave up diet and powders and immediately improved on normal diet and exercise. In 1923 he went to London. The Meltzer-Lyon test for gall bladder disease, X ray examination of teeth and antra and eye examinations all yielded no information. Severe migraine had developed and covered 30% of his time, especially when he was worried with business. In 1925 an attack of cholecystitis led to operation and evacuation of pus and an impacted stone. The duodenum and stomach were normal. His weight rose to seventy-eight kilograms (twelve stone five pounds). I first saw him in February, 1926. Headaches and indigestion were as bad as ever, aggravated by mental strain and relieved only by holidays in the mountains. Things were very bad. There is a family history of hay-fever and asthma, but it is a long-lived family. The systolic blood pressure was 110 millimetres of mercury and the diastolic pressure 80 millimetres, he had a slow pulse, he was an old athlete. A test meal revealed emptying at three-quarters of an hour. He was treated with dilute hydrochloric acid with meals for seven months with improvement in digestion and headaches in spite of hard work during this period. Then headaches returned, but were relieved by "Luminal" for six months in spite of hard work. In 1927 an attack of pleurisy seemed to upset all the good done and now he has migraine as badly as before and nothing will relieve it but cessation from work. Indigestion, however, has quite disappeared.

Case XII.—A female, aged 58 years, had a mother and sister who suffered from migraine, her parents died at eighty-two and seventy-nine years of age. In 1925 a diagnosis of duodenal ulcer was made as result of X ray and test meal examinations showing hypertonus, rapid evacuation and hyperacidity. At operation the stomach and duodenum were normal. In 1927 she had pain one to two hours after meals and at night, eased by food and sometimes by alkalis, but the effect of the latter has "now worn off." There was much family worry. She was greatly improved on "Luminal" and diet. (See also the mother in Case X.)

The opposite depressed type with flattened gradient is found mostly in neurotic women, with flatulence, epigastric discomfort *et cetera*, but less definitely related to food. Their troubles are aggravated by worry and anxiety. In addition there are other disturbances shown by palpitations, vasomotor disturbances and frequency of micturition. These people are familiar to us all and break the heart of the physician. It is this type particularly that I have been treating with "Hormotone" with, as already stated, some encouragement.

Diagnosis of these nervous dyspepsias depends on the association of nervous disturbances of other organs also. Palpitations and vasomotor disturbances have already been mentioned. In addition there are often worry and anxiety and fears about the presence of tumours, they will often talk at length of their own notions concerning their physiology, pathology and treatment. They are introspective, study their diet, excreta *et cetera*, sometimes with careful notes thereon. There is, however, no wasting unless pronounced anorexia leads to malnutrition.

In addition to what has been said, treatment consists in treating the individual, not his stomach. Avoid special diets and gastric treatment. A fractional test meal is often of great therapeutic value when accompanied by suitable explanations for allaying fears regarding cancer or other tumours. The test meal often yields an amazingly high acidity curve.

The Use of Hydrochloric Acid.

Hydrochloric acid has been advocated for gastric disorders associated with achlorhydria in the belief that it supplied a substance necessary for digestion. Yet many patients with inborn achylia are perfectly healthy with good digestions, whereas those with dyspepsia often do equally well on sodium bicarbonate.

I use hydrochloric acid a great deal in four cubic centimetre (one drachm) doses after the method of Hurst with excellent results in most cases, but I give it far more for its general effects than for its local results. I was first led to do this by the following experience with a patient.

Case XIII.—A female, aged thirty-six years, single, had been in ill-health for many years. When first seen by me she complained of nausea at any time of the day unrelated to food. She had a good appetite, indigestion occurred immediately after meals with swelling of the whole abdomen. She had nettlerash with certain foods. She had had "colitis" for seven years with five or six motions a day before 10 a.m., now much better; Dietl's crises,

"cystitis," leucorrhœa and severe menorrhagia had been present for years, multiple boils had been noticed for years, appendicectomy was performed three or four years ago. She was tall, very thin, had a narrow costal angle and was in wretched health. On account of the dyspepsia and morning diarrhœa she was ordered acid dilute with and following meals. Within a few months I was amazed to find that the whole of her troubles had disappeared, that she put on about 12·6 kilograms (two stone) in weight. She looked and felt well, with good colour and had a new outlook on life. After a year, however, the menorrhagia and boils returned and have remained on and off since, though not to such a severe extent. She has been taking acid for two and a half years with only short intermissions and likes it.

This result, confirmed by subsequent experience, was so extraordinary that I became interested in the use of acid for its general effects.

It will be noted that acid produces its effects especially in the patient with depressed metabolism and oxygenation, in whom, as stated at the beginning, we found low blood bicarbonate and high red cell volume. These were held to indicate a rather more rapid breathing, which leads to a blowing off of plasma carbon dioxide at a greater rate than the kidneys can get rid of alkali in order to keep the $\frac{CO_2}{\text{alkali}}$ ratio of the blood unchanged. The result is a mild alkalæmia. This in turn leads directly to a diminished dissociation of oxyhæmoglobin, thus undoing any good effect which increased respiration might have. Haldane has shown that the administration of acid breaks this vicious circle by destroying the alkalæmia, thus increasing oxyhæmoglobin dissociation and oxygenation of the tissues. The result is an increase in general metabolism, with steepening of the gastro-intestinal gradient, rise in gastric tonus, activity, appetite and general health.

Hydrochloric acid then has the following uses: (i) Locally in the stomach as an aid to digestion, as a bacteria trap in the stomach and to control the pylorus of a too-rapidly emptying stomach with diarrhœa; (ii) generally to increase general metabolism, with rise in gastro-intestinal tonus, appetite and general health.

ACKNOWLEDGMENT.

In conclusion I wish to acknowledge my indebtedness to Dr. J. A. Ryle and Dr. H. MacLean, of London, and Dr. W. C. Alvarez, of the Mayo Clinic, from whose writings I have borrowed so freely.

APPENDIX A.

Classification of the Causes of Dyspepsia.

I. Influences tending to flatten the activity gradient.

(*a*) General—all those conditions tending to interfere with general metabolism, mostly oxidation processes.

(i) Faults in oxygen supply—balloon and mountain sickness, carbon monoxide poisoning, side-tracking of oxygen supply from digestive tract to voluntary muscles as during and after severe exertion (the "physiological" dyspepsias).

(ii) Faults of oxygen carriage—chronic heart and lung conditions, anæmias, deficient exercise with habitual shallow respiration.

(iii) Faults in tissues leading to ineffective utilization of oxygen—fevers, toxic states, chronic nephritis, diabetes, phthisis, fatigue, general debility, hypothyreoidism.

(*b*) Local—

(i) With raising of lower end of gradient: inflammations of the lower intestine, appendicitis, constipation, colitis, pelvic disorders, pregnancy.

(ii) With lowering of tonus and activity of upper end of gradient: diminished lumen of gastric vessels (overstretching following habitual over-eating and gastroptosis, arteriosclerosis); hepatic cirrhosis; organic changes (carcinoma, ulcer, fibroses and chronic gastritis following chronic oral sepsis, tobacco and alcohol usage).

APPENDIX B.—TREATMENT SHOWN IN TABULAR FORM.

Type of Dyspepsia.	Cause.	Special Points in Diagnosis.	Treatment consists in reversing the changes of gradient indicated in Column 1, by the following means.
Flattened Gradient—			
General	Defective metabolism	Family history; diathesis	Attention to heart, blood, general health, massage, cold baths, hydrochloric acid, "Hormotone" *et cetera*
Local—			
(*a*) Raising lower end	Inflammations in lower abdomen	Pelvic examination	Deal with constipation or pelvic cause
(*b*) Lowering upper end	Organic disease; bad habits (tobacco, alcohol, unsuitable food *et cetera*)	History regarding habits, food *et cetera* X ray examination for occult blood; test meal	Stimulation of appetite and gastric function—hot drinks, soup, tasty food, gentian *et cetera*, clean tongue
Steepened Gradient—			
General	Raised metabolism	Family history; diathesis	Warmth and avoid cold
Local, raising upper end—			
(*a*) Local irritations	Bad habits (spices, condiments, tobacco *et cetera*), inflammations in upper abdomen	History regarding habits X ray examination; test meal *et cetera*	Avoid stimulants, tobacco, coffee, hot foods *et cetera*, give fats
(*b*) Central nervous causes	Cerebral and psychic conditions	Palpitations, neuroses, worry, phobias, family history	"Luminal," bromide, belladonna, avoid worry
(*c*) Reflex nervous causes	Appendix, gall bladder, special sense disorders, *tabes et cetera*	X ray examination; special sense examinations Wassermann test	Surgery and attention to special senses

II. Influences tending to steepen the activity gradient.

(*a*) General—by raising general metabolism: Cold, youth, males rather than females, athletic types, after good exercise, high body surface, weight and height.

(*b*) Local influences at upper end of tract raising the gradient—gastric activity, early gastritis, cholecystitis, irritating articles of food, for example tobacco, occasional use of alcohol, condiments.

(*c*) Nervous causes raising gastric tonus and activity—

(i) Central—worry, anxiety, certain unnamed conditions producing secretory and motor neuroses.

(ii) Reflex—appendicitis, gall bladder, kidney conditions, astigmatism, stimulation *viâ* gustatory nerves.

THE CURE OF PRURITUS ANI BY OPERATION.

By C. E. Corlette, M.D., Ch.M. (Sydney),
Senior Honorary Surgeon to the Sydney Hospital, Lecturer in Clinical Surgery, University of Sydney.

I published not long ago[1] in The Medical Journal of Australia a paper on irritable ulcer of the malleolus and its cure by operation. Reasoning by the success obtained in cases of irritable ulcer through cutting the nerve supply to the ulcer, I thought it possible that a somewhat similar operation might be serviceable in some cases of pruritus of the anus, and I have experimented in this direction in several cases of the kind in the past two years. The number has been small, only four, but the result has been encouraging enough to impel me to describe the method, so that others may test it. The affliction is so distressing, and current treatment is often so disappointing that the procedure is worth a more extended trial. Each of my patients has been cured, and as far as I have been able to ascertain up to the present, the cure has been a lasting one, but I do not suggest that results will always be completely successful. However, even if only partial or temporary success is obtained the gain will be great, especially in view of the fact that the procedure is simple, and, if properly carried out, is accompanied by little risk. Moreover, it can be repeated as often as necessary.

The operation is done under local anæsthesia, the anæsthesia being procured by local infiltration with "Novocaine" (0·5%) and adrenalin (1 in 150,000). I think this is likely to be better than regional anæsthesia by sacral, transacral, or parasacral anæsthesia because local infiltration prevents all capillary hæmorrhage into the field of operation. The anus and the surrounding skin for a distance of some 6·25 centimetres (two and a half inches) is infiltrated with the anæsthetic solution, so that the knife can be inserted painlessly at a point far enough from the anus to be safe from infection. At four points, one on each side, one behind, and one in front of the anus, a long knife (a straight bistoury) is inserted and directed towards the anal aperture. The point of the knife should reach right up to and beneath the anal margin, but the greatest care should be exercised not to perforate the skin, since this would admit the entrance of infective material from the anus. Then the knife should be made carefully to undercut the skin around the anus so as to sever, as far as possible, all the nerve filaments passing towards the skin from the subcutaneous tissue. By inserting the knife at all four points it is possible, by a sweeping movement, to separate the skin near the anus very completely from the underlying fat. It is not necessary, nor is it, I think, advisable, to separate the skin right out to the circumference in which the points of incision lie. If such extensive separation were required, I would operate piecemeal, at different times, as described below. But it is necessary to be sure that the anal margin is undercut. In my last case, the patient, while greatly relieved, said that he still had some itching just inside the anus. In his case, I had performed the cautery operation on some hæmorrhoids before doing the undercutting operation, and I had not undercut right into the patulous anus. So I repeated the operation a fortnight later, and took care on this second occasion to cut right beneath the puckered skin at the distal part of the anal tract. The result of the second operation was a complete cure, no pruritus at all remaining.

I have in all cases sealed up the punctures with collodionized gauze, and none has broken down. It would not be possible to seal up with collodion if there had been hæmorrhage through the punctures, since collodion will not stick on a wet surface, but the adrenalin makes the region so bloodless that collodion can be relied on.

Like the operation for irritable ulcer of the malleolus, the procedure I have just described seems the sort of simple thing that everyone would think of, but it appears that this is not really so. Undercutting is done, it is true, but I find that the operation described in the books to hand is the one devised by Ball, and known by his name. Ball's operation is thus described by Pennington.[2]

A semicircular incision is made on each side of the anal opening, leaving an isthmus of skin intact at the anterior and posterior commissures. The incisions are then deepened as far as the sphincter muscle, the flaps dissected up with scissors, all connexions with the subcutaneous tissues being severed (including, of course, the nerves). The skin isthmuses are next undercut as is the outer—or concave—edge of each incision for at least 0·25 inch. After arresting the bleeding, the flaps are replaced and sutured.

Pennington then goes on to say:

Krouse having operated by this plan on a man of 63, had necrosis of the flap following. To guard against this he suggests making a series of radiating incisions, 2 in the midline in front and behind, respectively, with 2 on each side, then dissecting them up, etc. By this means the parts are better nourished.

For inveterate cases Hanes combines dissection with cauterization: An incision is made in the midline posteriorly, when the disease is well marked, a bent director can be passed subcutaneously to the midline in front. The junction of the skin with the anal lining is

divided and a portion of the overhanging edge removed, being careful not to excise enough to produce stricture later. Next the skin is held back and the diseased area burned thoroughly by the cautery, the opposite side is treated in a similar manner; and the skin adjacent to the incisions cauterized also.

It will be seen that both Ball's and Krouse's procedures are open operations, and open operations adjacent to the anus are very liable to infection. Of course, infections, if they do occur, heal after a time, but it is certain that an infection will make the risk of necrosis of an undermined flap considerably greater.

Hanes's procedure does not involve an undercutting operation, but I have included its description to show that it, too, is an operation of some severity.

It is obvious that if my method of operation is effectual, it is a much milder and less serious undertaking than those of Ball, Krouse, or Hanes.

I would add a few more remarks on the subject of technique. Firstly, if the area subject to pruritus is extensive, I would advise very strongly that the field be undercut piecemeal by a series of operations, area after area being treated at intervals of, say, two weeks. This ought to be quite as effective in curing the pruritus as a one-sitting operation, and it greatly minimizes the risk of necrosis. It would, in my opinion, be extremely bad surgery to undercut a very large area at once.

Secondly, one can learn something from the case I had to operate on twice, that is, to be sure to get the knife beneath the area at the orifice of the anal passage. The undercutting does not interfere with anal sensation so as to cause incontinence.

Thirdly, one learns that if a first attempt is not completely successful, it is worth while doing it again. It is not as if one had to do a succession of operations with a general anæsthetic each time; the discomforts of a suitably managed local anæsthesia are very slight.

The patient should be prepared for local anæsthesia by morphine and hyoscine and by suitable suggestion. He should have a preliminary enema but not a preliminary purge. The bowels should not be bound up after the operation, and the patient should be treated practically as a normal person, though he should rest for about a week or a little longer, so as to allow a quiet period of repair.

It is quite likely that other surgeons have operated by a method similar to mine. But if the operation does good, ameliorating or curing the affliction in a considerable number of cases, it should be made well known, so that its benefits should be made available to a larger circle of sufferers. If medical men are not made acquainted with good things, their patients are deprived of advantages which the progress of knowledge should afford them. It is desirable, however, that an operation of the sort just described should be further tested in practice. We should find out more about it before beginning to use superlatives in describing its advantages. I can only say now that as far as my experience of it goes, it has given most encouraging results. I hope, therefore, that others will test it carefully and scientifically, and then publish their experience.

References.

(1) C. E. Corlette: "On Irritable Ulcer of the Leg or Malleolus and its Cure by Operation," The Medical Journal of Australia, May 28, 1927, page 782.
(2) J. R. Pennington: "A Treatise on the Diseases and Injuries of the Rectum, Anus, and Pelvic Colon," 1923, page 253.

Reports of Cases.

HÆMANGIECTATIC HYPERTROPHY OF THE ARM: A CASE OF GENUINE PHLEBECTASIS.[1]

By Eric Susman, M.B., Ch.M. (Sydney), M.R.C.P. (London),
Honorary Assistant Physician, The Royal Prince Alfred Hospital, Sydney;

and

D. W. McCredie, M.C., M.B., Ch.M. (Sydney),
Honorary Assistant Surgeon, The Royal Prince Alfred Hospital, Sydney.

Reports of single cases are not as a rule of very great value. For this reason, therefore, the practice of so doing, unhappily very prevalent, is to be deprecated. In spite of this opening remark, we feel that this case is well worth recording, firstly, on account of its rarity and secondly, because, as far as we are aware, it is the first case of its kind to appear in Australian medical literature.

Clinical History.

O.B., a female, aged fifteen years, born of healthy parents, Australian to the third generation, came under observation in May, 1927, complaining of a gradual enlargement of the right upper extremity for the previous six months. Her health had always been excellent. There had been no actual pain in the affected limb nor had there been any disability, inconvenience or evidence of clumsiness. Beyond the swelling her only other complaint was a feeling of "pins and needles" when the arm had been hanging down by her side for any length of time.

On examination the right upper extremity is obviously larger than the left. It even looks longer, but the tape measure does not confirm this. As regards girth, however, the affected limb is much larger, the actual measurements showing a difference of five centimetres (two inches) and 2·5 centimetres (one inch) measured round corresponding points of the arm and forearm respectively. There is no œdema. Movements at all joints of the limb are full and painless. Motor power is good and there are no sensory changes. The hand and wrist are bluish, but warm. The temperature is the same on both sides. There is gross venous dilatation over the upper third of the right arm, this area extending across the anterior aspect of the chest wall as far as the middle line. This dilatation is similar to that seen in a lactating breast. No pulsations or thrills can be felt.

A meticulous examination of the chest by several independent observers failed to reveal any abnormal physical signs. This precaution was taken, because the condition was thought at first to be one of intrathoracic neoplasm. No enlargement of the spleen or lymphatic glands was detected. There were no abnormal neurological signs.

There was no radiological evidence of the presence of cervical rib. Subsequently the whole skeleton was examined

[1] The patient described herein was shown at a meeting of the New South Wales Branch of the British Medical Association on June 9, 1927.

by X rays in order to detect perchance the presence of a latent and symptomless sarcoma, but none was discovered. The Wassermann test yielded no reaction and the blood picture was as follows:

Erythrocytes, per cubic millimetre	4,000,000
Hæmoglobin value	0·87%
Leucocytes, per cubic millimetre ..	9,000
Neutrophile cells	59%
Eosinophile cells	2%
Basophile cells	1%
Large lymphocytes	4%
Small lymphocytes	30%
Monocytes	4%

The red cells show well marked anisocytosis, some poikilocytosis and also diffuse polychromasia.

Comment.

To the observer who is not familiar with the condition of hæmangiectatic hypertrophy of limbs, this case presented peculiar diagnostic difficulties. We were fortunate in having Dr. Holmes à Court see the patient and it was he who suggested the diagnosis. We are now in entire agreement with him and gratefully acknowledge his valuable opinion on the condition, thus helping us out of a diagnostic quagmire.

Cervical rib or some gross intrathoracic (pressure) lesion being excluded, the site of the lesion must necessarily be in the blood or lymphatic vessels of the limb itself. Our case corresponds very closely with the clinical descriptions of this malady in the none too extensive literature on the subject.

Parkes Weber[1] describes these conditions of congenital or developmental hypertrophy and dilatation of arterial and venous trunks as "a tumour-like hæmangiomatous overgrowth of vessels." His suggestive comparison with the group of plexiform neuromata is interesting. That is to say, these hæmangiomatous overgrowths are in the same relation to the vascular system, as the neuromata to the nervous system. This observation is well worthy of note, although the essentially fibromatous (non-nervous) structure of the neuromata, more properly designated "neurinomata," is now well recognized.

There are roughly three groups of these conditions of hæmangiectatic hypertrophies:

1. Congenital lymphangiectasis when the lymphatic vessels alone are involved in the morbid process.

2. Diffuse or localized phlebarteriectasis, when a mixing of venous and arterial blood occurs. To this group belong the so-called cirsoid aneurysms and the plexiform hæmangiomata which are seen on the scalp and face. This is the localized type. The diffuse type occurs in the extremities, usually the upper, and is characterized clinically by elevation of the temperature of the affected part and pulsation of the soft tissues in the affected area. An excellent example of this condition was brought before the Royal Society of Medicine this year.[2]

3. The third group, to which we believe our case to belong, was first described by Bockenheimer,[3] as diffuse phlebectasis (as opposed to phlebarteriectasis). In this condition the course and structure of the arteries are normal, the veins alone being affected. In Bockenheimer's case, the humerus on the affected side was 2·5 centimetres (one inch) longer than on the normal side. We were not able to satisfy ourselves that this bony enlargement was present in our case. Weber is of the opinion that the enlargement is the direct result of the increased blood supply. It is quite possible, therefore, that the present patient may manifest some degree of osseous hypertrophy in the future.

Summary.

1. The case of a gradual, painless, generalized swelling of the upper extremity in an otherwise healthy young adult is described.

2. The opinion is expressed that this case is an example of genuine phlebectasis—the rarest group of the hæmangiectatic hypertrophies.

References.

(1) F. Parkes Weber: "Hæmangiectatic Hypertrophy of Limbs—Congenital Phlebarteriectasis and So-Called Congenital Varicose Veins," *The British Journal of Children's Diseases*, January-March, 1918, page 13.

(2) C. C. Beatty: *Proceedings of the Royal Society of Medicine*, March, 1927, page 532.

(3) P. Bockenheimer: "*Festschrift für G. E. von Rindfleisch*," *Seite* 311.

STRANGULATED INGUINAL HERNIA WITH BURST SAC AT NINETY-ONE YEARS OF AGE: OPERATION AND RECOVERY.

By C. E. Corlette, M.D., Ch.M. (Sydney).

Senior Honorary Surgeon to the Sydney Hospital; Lecturer in Clinical Surgery, University of Sydney.

Joseph W., aged ninety-one, was admitted to the Sydney Hospital on November 19, 1917, complaining of a lump in the right groin, formerly reducible, but which had suddenly greatly increased in size that morning and become irreducible. He had had a small undescended testicle on the right side all his life. About sixteen years ago, that is, when seventy-five years of age, he had developed a hernia in the right groin, easily reducible on lying down. About twelve hours before admission, while he was lifting a weight, the lump in his groin suddenly became much bigger, painful, tender, and irreducible. Otherwise, his previous health had always been good, excepting several attacks of influenza twenty years ago.

On examination, he was found to have a large, tense, double swelling in the groin. It occupied the right side of the scrotum, but without descending as low as the testicle of the opposite side. Above, the swelling reached up over the lower part of the abdomen. There was a well-marked constriction between the swelling associated with the scrotum and that ascending on to the abdomen. The upper swelling was rather larger than a goose egg, and the lower was several times larger. There was no impulse on coughing, and there was considerable pain felt if the mass was pressed on. The pulse was 90, respiration 24, and temperature 36·7° C. (98° F.). The urine was acid, its specific gravity was 1010, and it showed a cloud of albumin on boiling. An enema produced a good result. Moderate taxis failed to reduce the swelling.

He was operated on the same evening under local anæsthesia. No distinct hernial sac could be seen when the tumour was cut down on. There was a large space containing about 45 centimetres (eighteen inches) of distended, darkly congested, small intestine. The mesentery was œdematous, and some of the small mesenteric vessels appeared to be thrombosed. The hernia was of the indirect type, with the inferior epigastric vessels medial to the opening. There was, however, no oblique canal, the superficial and deep openings being directly opposite one another and practically coalescent. The opening was quite small, and the constriction very tight. It was really marvellous how so much had got through. It was necessary to make several small nicks in the narrow opening to allow of reduction.

After reduction had been accomplished, it was noticed that the testicle was small and high up. The coils of intestine had been in immediate contact with it, and hereabouts there was a serous lining. There was no serous lining to the space in the scrotal region. The upper mass of the hernia had occupied a large subcutaneous space superficial to the external oblique muscle. No sac membrane was distinguishable here, the bowel lying free in the subcutaneous tissue. The constriction which had divided the hernia like an hour-glass had been caused by a band in the subcutaneous tissue apparently corresponding to the neck of the scrotum.

After reduction, the opening in the abdominal wall was stitched up with thick catgut and the wound closed in the usual way. The bowels were well moved about thirty-six hours after operation.

The interpretation of the condition seems to have been as follows. There had been an incompletely descended and undeveloped testicle throughout his whole life, with a continuous serous canal between the cavity in which it lay and the peritoneal cavity. This seems to be proved by the fact that the coils of intestine were in immediate contact with the testicle. But although this congenital canal existed, he lived to the age of seventy-five before a hernia made its way down through the passage to the testicle. The sac of the hernia appeared to have been one of the sort described as an interstitial hernia, the sac lying in the subcutaneous tissue of the groin. So far as my observation goes, it is only in cases where an undescended testicle exists that these interstitial sacs are found. At the age of ninety-one, a sudden strain caused a further protrusion of intestine, under the pressure of which the serous sac burst and the hernia escaped into the subcutaneous tissue, forcing its way downwards into the scrotum and upwards over the lower part of the abdomen, beneath the skin and superficial to the external oblique muscle. At the same time, strangulation occurred at the inguinal opening.

This is the only time I have ever seen such an accident as a burst sac.

The whole case is a remarkable one. The long delay of seventy-five years before a hernia appeared is quite worth recording by itself. Further, the smooth and uneventful recovery from such a serious condition in a patient ninety-one years of age is another remarkable fact. The wound healed as well as it could be expected to in a child. I saw the patient from time to time for two or three months afterwards. He was well, and the hernia had not recurred. After that I lost sight of him.

HEPATIC HYPERTROPHY IN THE NEW BORN.

By R. F. Matters, M.B., B.S., D.G.O., F.R.C.S. (Edin.).
Honorary Assistant Obstetrician, Queen's Maternity Home; Tutor in Obstetrics, Adelaide University; Surgeon Female Night Clinics, Adelaide Hospital.

A woman, a *primipara*, aged thirty-eight years, who from about the fourth month developed enormous hæmorrhoids which were resistant to treatment, was under my charge. The bowels were operated by senna tea and liquid paraffin and the foot of the bed was raised about 22·5 centimetres (nine inches). The patient was kept in bed for some days and then allowed about when the still very large hæmorrhoids were less painful. The patient had hydramnios and the fœtal presentation was a breech.

At the eighth month I converted the breech into a vertex presentation. This, however, subsequently reverted to a breech. I repeated the version with a similar result. Finally I repeated the version and put on a binder for three days, when the head had engaged at the brim.

At about full term the membranes ruptured before labour had begun. Thirty-six hours later the patient developed genuine labour contractions and spontaneously delivered herself of a baby with a distended thorax and abdomen.

The cord continued to pulsate for about twenty minutes and the infant endeavoured to breathe, meantime artificial respiration was instituted and oxygen was used even to the extent of intratracheal insufflation. Many times the infant's face screwed up as though it was endeavouring to cry, but it could emit no sound. Finally after about two hours the child died.

With difficulty I managed to obtain a *post mortem* examination and was glad to be able to clinch a diagnosis of hepatic hypertrophy.

The lower border of the liver extended down to the level of the iliac crests, while the upper surface reached the level of the *manubrium sterni* on the right side, absolutely restricting the diaphragm. For this reason the lungs failed to expand and this caused the asphyxia.

It is interesting to note that the upper surface of the liver appeared to have so invaginated the diaphragm that the main respiratory muscle was almost folded around the liver, also to note that the liver produced a fœtal extension *in utero* and probably accounted for the breech presentation and also for the early rupture of the membranes.

It would be of interest to correlate the hydramnios with the fœtal condition, but permission was not obtainable for liver section to be made nor could maternal blood be obtained for examination.

Reviews.

DISEASES OF THE PROSTATE.

George Luys's handsomely prepared book, "*Traité des Maladies de la Prostate*," affords an interesting example of the narrowed outlook which results from the intensive pursuit of a very restricted specialty.[1] Luys has become widely renowned as a specialist in the study and treatment of urethritis and at the same time as a very expert urethroscopist. He now enters the prostatic field with a monograph on the diseases of this gland. His own experience, however, has been that of a urethroscopist and this experience largely influences his conception of the subject. His dominant thought when confronted with a case of senile enlargement of the prostate is: "Can this obstruction possibly be removed by electrocoagulation through my special posterior urethroscope?" This is so notwithstanding the fact that his own instrument has been superseded by the more modern cysto-urethroscope and that his electrocoagulation method has repeatedly been proved by French urologists to be of little or no value in the treatment of senile hypertrophy of the prostate. Electrocoagulation is used with success by many urologists in the removal of a median vesical bar, when there is no enlargement of the prostate itself, but when there is definite enlargement of the prostate the electrical method merely tampers ineffectively with the surface of the growth.

In the discussion of the pathological anatomy of prostatic hypertrophy, Luys ranges himself alongside Motz and Péréarnu who in 1905 stated that prostatic hypertrophy was not due to an adenoma of the prostate gland proper, but of the submucous glands of the posterior part of the urethra, the prostate itself becoming compressed and expanded as the suburethral glands hypertrophy. No mention is made of the important work of Lowsley in the United States in 1915 and later. Lowsley's researches into the embryology and anatomy of the prostate are so careful and exhaustive as to be almost unchallengeable and his studies convince us that senile hypertrophy of the prostate does really take place in the substance of the prostate gland itself, namely, in the lateral and middle lobes, while the growth during its expansion compresses the posterior lobe.

Luys gives full details of the technique of his endoscopic method of attacking the enlarged prostate. He designates the method as "*forage*," that is "tunnelling," and applies it through his direct-vision cystoscope. A straight and rigid diathermy electrode is used and the burning is done in successive *séances*, at least eight days apart, until the tunnel so obtained through the posterior portion of the urethra is wide enough to allow free evacuation of the bladder. We are glad to note that he insists on the importance of the tight apposition of the prostatic lobes on their urethral aspect in the causation of the urinary obstruction. In many books this is not mentioned and the reader gains the impression that the intravesical projection of the adenoma mainly causes the obstruction.

The initial chapters of the book are devoted to a discussion of the anatomy and physiology of the prostate and the clinical examination of this gland. Then follows an exhaustive study of the pathological anatomy of the prostate, mention of which has been made above. The succeeding chapters deal with the pathogenesis, ætiology, symptomatology, diagnosis and complications of senile hypertrophy of the prostate. By the time the treatment of

[1] "Traité des Maladies de la Prostate," by George Luys; with chapters on "Prostatectomies et Tumeurs Malignes," by Victor Pauchet; 1926. Paris: Librairie Octave Doin. Crown 4to., pp. 680, with illustrations. Price: 90 fr. net.

this condition has been dealt with we have reached page 504. As the total number of pages in the monograph is only 680, this seems an inordinately large proportion of the space to devote to one condition.

Many of the more important surgical chapters in the book are written by Victor Pauchet and not by Luys. Thus Pauchet describes the various methods of prostatectomy, including the ischio-rectal route of Voelcker and writes chapters on the diagnosis and treatment of carcinoma and sarcoma of the prostate. These chapters are admirably illustrated and well written, except that no scientific discussion of carcinoma of the prostate is given. In discussing the perineal method of prostatectomy for senile hypertrophy of the gland, Pauchet includes a detailed description of his own method which is a combination of the techniques of Young and Proust. The method is very interesting and seems admirably designed to avoid injury to both the sphincter of the membranous urethra and the ejaculatory ducts. Among the methods described by Pauchet for radical treatment of carcinoma of the prostate is an open suprapubic method in which the prostate is dissected out extracapsularly, taking with it in one piece the seminal vesicles and the lower parts of the ejaculatory ducts. The modern methods of applying radium and deep radiotherapy for carcinoma of the prostate are also described, but with insufficient detail. The prognosis of this disease is scarcely mentioned.

The chapter written by Luys on inflammation and abscess of the prostate is excellent, being very clear and informative, with all superfluous statements rigidly suppressed. Here again, however, the author shows that he is unduly fascinated by the urethroscope, both as an instrument of diagnosis and of therapy. In discussing chronic prostatitis, he even makes the statement that "the positive diagnosis of chronic prostatitis can be made truly only by posterior urethroscopy," whereas the posterior portion of the urethra may be normal in appearance, while the prostatic secretion contains much pus and the patient suffers from distressing referred pains. Luys justly insists on the importance of examining the seminal vesicles, since a spermato-cystitis may inadvertently be left untreated, causing an obstinate persistence of posterior urethral lesions. The perineal route is advised for opening a prostatic abscess, if the latter will not within the space of a few days evacuate itself *per urethram*.

A few short chapters at the end of the book are devoted to tuberculosis, syphilis, calculi, wounds and hydatid cysts of the prostate.

SURGERY OF THE THYREOID.

"The Surgical Treatment of Goiter," by Willard Bartlett, of St. Louis, is intended by the author to be a study in detail of the elaborate procedure involved today in the preparation, operation and after care of the goitre patient.[1] It is designed to appeal to the well trained young general surgeon who is inclined to broaden his experience in the special field of thyreoid surgery.

The book commences with a very interesting chapter on the pathology of goitre by Louis C. Wilson, of the Mayo Clinic, in which he deals with the incidence of hypothyreoidism and hyperthyreoidism in endemic goitre. As might be imagined from his very large experience, this writer is particularly illuminating. After examining a large number of patients with nodular thyreoids in endemic goitre, he holds that so gradual is the graduation in the clinical evidences of hypofunction and hyperfunction, that it is impossible to draw a sharp line of distinction at any level, while on the other hand a histological study shows great difference in the cellular evidences of hypofunction and hyperfunction in the glands of patients with high metabolic rate, for example above 20, and the glands from patients with metabolic rate not above normal. But he states that, while there is pathological evidence in glands from patients with this type of hyperthyreoidism of the hyperfunction of the tissue, it is never so pronounced either in extent or degree, as is that found in glands of patients with typical hyperthyreoidism, unless the latter have been effectively treated with an iodine preparation. A chapter on this subject so simply written is welcome, because the pathology and classification of the different forms of goitre are so confused and hypotheses and theories are often so mixed up with established facts.

In another section of the book Grant, also of St. Louis, in a short monograph of "The Heart in Goitre," summarizes in a most practical way the management of this most difficult thyreoid problem. He follows Plummer in discarding digitalis in auricular fibrillation, but uses it if iodine fails.

He writes most interestingly on that most important and well known diagnostic problem, the very great difficulty of determining whether a fibrillating heart is really due to an unobvious hyperthyreoidism.

We should like every general practitioner to read the rules this writer lays down for the early diagnosis of what he calls "thyrocardiac" cases with a view to surgical treatment. It really amounts to this, that every patient with auricular fibrillation must be suspected of hyperthyreoidism unless this is disproved. There are far too many patients with advanced cardiac conditions suffering from hyperthyreoidism, which should have been diagnosed much earlier and many whose hyperthyreoidism is not even suspected.

There is a chapter on ligation. Surely the work of Scott, Williamson and Pearce goes to show that ligation of the superior thyreoid artery is useless, seeing that according to their work it does not supply gland substance and surely now, with the use of iodine, ligation is an obsolete operation. Certainly this will be the opinion of most surgeons with goitre experience.

Bartlett relates his experiences with the different gas anæsthetics, preliminary medication *et cetera*. He is entirely opposed to ether and favours the combination of a "Novocaine" infiltration, combined with what he calls "gas analgesia," that is, 50% of gas and 5% of oxygen. He has no experiences to relate of ethylene.

The author gives many valuable hints how to obtain a very good scar. He makes his incisions in the platysma at a very little higher plane than the incision in the skin and this, he states, helps. One thing, too, that deserves attention is that he amputates the lower pole of the thyreoid under the protection of an elastic tourniquet, which, he holds, minimizes hæmorrhage.

This book is beautifully illustrated and contains a wealth of experience as would be expected, seeing that it comes from the famous Washington University at St. Louis and also from the Mississippi Valey which is a great endemic goitre district.

[1] "The Surgical Treatment of Goiter," by Willard Bartlett, A.B., A.M., M.D., D.Sc., F.A.C.S., with a Foreword by Dr. Charles H. Mayo; 1926. St. Louis: The C. V. Mosby Company; Melbourne: W. Ramsay. Crown 4to., pp. 365, with illustrations. Price: 42s. net.

AN EPITOME OF SKIN DISEASES.

A small book on the "Outlines of Common Skin Diseases," by such a well-known dermatologist as Dr. T. Caspar Gilchrist, Clinical Professor of Dermatology, Johns Hopkins University, will prove very useful to students and general practitioners.[1] In all there are fifty-four pages, including an index dealing with the commoner forms of skin diseases met with in general practice. The sixty-one miniature illustrations arranged in five full page plates are excellent and very clear in detail in spite of their small size. The book contains a great deal of useful information, all arranged for quick and ready reference, for example, in two pages Dr. Gilchrist gives the regional distribution of the commoner diseases of the skin and in a page and a half a description of the common diseases of the mouth, while a useful list of the common diseases of the skin of children is given in a little over a page. It should prove a very useful handbook.

[1] "Outlines of Common Skin Diseases Including Eruptive Fevers," by T. Caspar Gilchrist, M.D.; 1927. Baltimore: The Williams and Wilkins Company. Post 8vo., pp. 54, with illustrations. Price: $1.50 net.

The Medical Journal of Australia

SATURDAY, OCTOBER 22, 1927.

The Code of Ethics.

The medical profession occupies a peculiar position in the community. From the earliest times it was recognized that the intimate relations between doctor and patient, the implicit trust placed by the patient in his doctor, the fact that the doctor is employed to safeguard health, to cure disease and to prevent death render it necessary for members of the medical profession to obey stricter ethical rules than those imposed on the people by law. About two thousand three hundred and fifty years ago Hippocrates demanded that every member of his profession should subscribe to his famous oath. During the twenty-three and a half centuries since that time the practice of medicine had undergone many and violent changes. The need for a special undertaking to obey the strictest ethical rules obtains now as much as it has obtained in the past. In the British Empire the General Medical Council has laid the foundation for a code of medical ethics and by its definitions of the term "infamous conduct in a professional respect" has given to the medical profession guidance in regard to the main matters at issue. The British Medical Association has gradually evolved a code of medical ethics by the findings of the Central Ethical Committee. No medical practitioner in the British Empire can be in doubt concerning correct professional behaviour. There is no second opinion in regard to conduct that is contrary to the public interest and detrimental or discreditable to the profession of medicine. The British Medical Association publishes a "Handbook for Recently Qualified Medical Practitioners" in which all these things are set out in simple, unambiguous language. Emphasis must be laid on the necessity for every practitioner to act in strict accordance with the rules of medical ethics.

Last week we published a considerable amount of important information concerning the newly founded College of Surgeons of Australasia. It has been announced in the lay press that the primary objects of the College of Surgeons include the granting of degrees. This is incorrect, just as it is not correct to state that the College was founded on the pattern of the American College of Surgeons. There are two concrete objectives of the College. The first is to set a high standard for Australasian surgery and the second is to maintain the highest ethical standard. Unfortunately some strong movement was required to distinguish those practitioners who by experience, skill and training have a right to enter their names on the roll of surgeons, from those who should undertake major surgery only in emergency. It is also eminently desirable to establish a class of surgeons who are known to honour the strict rules of medical ethics, who subscribe to rules drawn up to preserve the dignity and prestige of surgery and who agree to be expelled from the College of Surgeons without the right of appeal if they are found after proper inquiry to have offended against these rules. The General Medical Council has warned the medical profession that:

> The practices by a registered medical practitioner of advertising, whether directly or indirectly, for the purpose of obtaining patients or promoting his own professional advantage or for any such purpose of procuring or sanctioning or acquiescing in the publication of notices commending or directing attention to the practitioner's professional skill, knowledge, services or qualifications or deprecating those of others or of being associated with or employed by those who procure or sanction such advertising or publication, are in the opinion of the Council contrary to the public interest and discreditable to the profession of medicine and any registered medical practitioner who resorts to any such practice renders himself liable on proof of the facts to have his name erased from the Medical Register.

It will be noted that the wording is very wide and that the appearance in the lay press of any notice, letter, article or interview in which a medical practitioner's views, practice, opinion or experience is contained, is held to constitute advertisement. It is at times difficult to prove that the medical practitioner concerned in such a newspaper article, notice, report or paragraph sanctioned, instigated or acquiesced in the publication, but it is to be hoped that the College of Surgeons will demand that sanction or acquiescence may be assumed unless the individual concerned can show that he has taken active steps to prevent the appearance of the notice or the publication of a similar notice in the future. The British Medical Association asserts that a practitioner should not only avoid advertising, but he should take care

that others do not advertise on his behalf. The onus is on the practitioner to keep his name out of the newspapers in connexion with all professional matters, other than services rendered in an official, governmental, municipal or judiciary capacity. It is the aim of the College of Surgeons of Australasia to prevent the names of surgeons in private practice from appearing in the political or lay press. It is certain that expulsion from the College of a single Fellow for advertising would be so severe a punishment that few if any would risk its occurrence.

Another offence which has been mentioned in connexion with the College of Surgeons is dichotomy or the splitting of fees. The attention of the medical profession has been called to the existence of this practice in the past. We are persuaded that since Dr. McArthur wrote a letter for publication in our columns on this subject, the practice has become less frequent. The British Medical Association expressed its attitude by the use of the words: "dichotomy . . . canont be too strongly condemned." We have employed the terms dishonourable and dishonest in discussing the action of a practitioner who distributes the fee given to him by the patient in a manner other than that intended by the patient. In dealing with charges of a breach of the rule concerning dichotomy the College of Surgeons will have to exercise boldness, fearlessness and decision. If it fail to probe to the bottom every charge of this offence and to inflict the proper punishment when the facts are proved, the College will be useless to the profession and to the community.

Current Comment.

BLOOD-LETTING.

The medical practitioner of a hundred years ago subjected all and sundry, whether they were suffering from fevers, fractures or febricula, to the simple operation of venesection. That septic thrombosis, septicæmia, pyæmia and death frequently resulted apparently mattered little. It was the accepted method of treatment. It was the fashion of the moment. Undoubtedly many cures resulted, but at the same time, too much blood was sometimes removed and patients died on this account. With the more accurate knowledge of the causation of disease and with the elaboration of newer methods blood-letting fell into disuse; the fashion changed. Many practitioners possibly forgot the good results that had previously been obtained, but it is certain that others gave up the practice for fear of being thought out of date. The pendulum has of recent years begun to swing back again; blood-letting is, for many at any rate, being rediscovered. It is significant that a discussion has recently been held on the subject by the Royal Society of Medicine.[1]

W. G. Spencer opened the discussion and referred to impairment of the pulmonary circulation as "the capital indication for venesection." The early experiments, carried out after the discovery of the circulation, were the source of the remark made by Sydenham in connexion with pleuritis: "The morbific matter, when diverted by venesection, comes under my control, and the opening by the phlebotome serves instead of a tracheotomy." Spencer thinks that this observation explains Dryden's translation of the passage in Virgil's "Georgics" concerning inflammation of the hoof in sheep.

> The ready cure to cool the raging pain
> Is underneath the hoof to breathe a vein.

He points out that although the phrase "breathe a vein" may be obsolete, as stated in the "Oxford Dictionary," its application is a reality today. Spencer then enumerated "several states of grave urgency threatening death from impairment of the pulmonary circulation in which venesection saves life." The first of these states he groups under the heading, pulmonary and cardiac affections. The effect of venesection on the overdistended heart has been observed directly by B. Gordon who found that the clinical improvement following venesection is accompanied by a diminution of the area occupied by the heart in skiagrams. Blood-letting in a patient with a moderately dilated heart is accompanied by a much more pronounced diminution of the cardiac outline than in one with an extremely dilated heart. It is to be noted that Spencer does not mention pneumonia in connexion with venesection. In bygone days patients with pneumonia were frequently subjected to venesection and the impression is possibly existent today that the operation will be of benefit to patients who have a large area of consolidated lung. It is not the area of lung involvement that must be the determining factor, but the state of the right side of the heart. W. Hale-White in the present discussion said that a valuable guide to the necessity for blood-letting lay in the answer to the question: "Is the patient livid?" If lividity is present, it follows that the right side of the heart is overdistended; it is like a paralytic bladder. Until the right side of the heart is emptied by bleeding from a vein, it cannot contract and the patient will do badly. The majority of pneumonia patients are not livid and they do not require bleeding. Spencer records success resulting from immediate venesection and the removal of three hundred to four hundred cubic centimetres of blood after the occurrence of air

[1] *Proceedings of the Royal Society of Medicine*, August, 1927.

embolism following upon the induction of an artificial pneumothorax. He holds that whenever pneumothorax is induced, preparation should always be made for immediate venesection. Adults suffering from uræmia may possibly receive temporary benefit by venesection, but the lives of children suffering from nephritis after scarlet fever and from uræmic coma have been saved and the patients have been cured of the nephritis. James Dundas-Grant emphasized this in the discussion and gave the details of a typical case in which recovery occurred. Spencer points out that in young children, suffering from so-called "suffocative catarrh" following broncho-pneumonia and so forth, it may be difficult to open a vein and that Baginsky and others have adopted radial arteriotomy rather than the temporal arteriotomy used by the ancients. Eckstein and Nöggerath reported four cases in which three recoveries occurred. Spencer points out that the operation is simple, that no anæsthetic is required and that healing by first intention has followed. Hale-White on the other hand dismisses arteriotomy summarily by stating that he thinks it has "gone out of fashion." This view is wrong for it is the fashions in medicine which must be opposed. If a therapeutic measure is suitable in a given set of circumstances, it should be adopted regardless of whether it is the fashion or not.

The second group of conditions mentioned by Spencer comprises apoplectiform seizures and he asks how cerebral hæmorrhage can be recognized off hand. He refers to several cases in which the indications of the presence of hæmorrhage were apparently clear. In one case venesection was carried out and recovery followed with no resulting paralysis. In another venesection was followed by death and *post mortem* examination revealed an extensive cerebral hæmorrhage. Fortescue Fox reported a case in which a plethoric woman, while drinking the waters at a spa, suddenly lost the power of speech, became confused and became unconscious. A few minutes later she became profoundly comatose. Her face was purple, the pupils fixed and dilated, the limbs manifested restless convulsive movement and the right cheek flapped in respiration. Venesection was performed at once and in eight hours she regained consciousness. The right arm and leg were weak for some months and she was liable to become confused in speech and had some want of memory for words in the course of conversation. For some years later she remained otherwise quite well. The answer to Spencer's question is supplied by this case and it also exemplifies the truth of Hale White's statement that it is not desirable to bleed a patient further if he is already bleeding into his brain, but that in apoplexy venesection should be used in those in whom embarrassment of respiration has resulted in lividity.

A third group mentioned by Spencer is that described as *status epilepticus*. In all the cases described by him the patients manifested lividity and these again emphasize the truth of Hale-White's statement in this regard. Spencer also considered conditions of heat stroke, asphyxia by non-irritant gases, irritant gas poisoning and acute poisoning.

So far the conditions considered as suitable for venesection have been acute. It may be used with advantage in some chronic affections. In the first place polycythæmia is generally acknowledged to be relieved by blood-letting. Polycythæmia is due to an increased activity of the bone marrow, resulting in an enormous increase in the erythrocytes. It is a true example of plethora. Hale-White goes so far as to state that he knows of nothing that does so much good in this disease. Another important group of conditions to be considered is that which is associated with arterial hypertension. There was a tendency for many years to regard hypertension as a disease in itself. This view is no longer held. It is believed to be but a sign of some more fundamental derangement of the biological functions and it has a clinical significance only so far as it can be used to guide diagnosis and prognosis in disease. It should be mentioned in passing that disastrous results have been recorded when attempts have been made to reduce the pressure without attacking a known cause. Fortescue Fox holds the interesting view that hyperpiesis and arterial and nervous hypertension are in the majority of cases the "passing disorders of an epoch;" that they belong to a certain term of years in which the catamenia cease in women, and the strain of modern life is at its height in men. He does not believe that the high blood pressures of these persons are ordinarily or essentially connected with arteriosclerosis or with any other structural disease. The behaviour of the vessels, especially after venesection and sedative bathing, appears to him as conclusive evidence that the essential factor is a hypertension, due to a disordered nervous and circulatory function. This, of course, opens up the whole question of the nature and causation of arterial hypertension, which cannot be discussed at present. If the view is correct, it should be possible to tide patients over the dangerous period, to institute treatment during what Fox calls a dangerous pressure wave. He does this by a substantial venesection, fasting in bed and a course of sulphates. Opinions are divided as to the lasting results of venesection in arterial hypertension and it may be that a great deal of Fox's success is due to the rest in bed and the sulphates. He states that no little discrimination is necessary for the selection of cases, but does not indicate how he eliminates those who are unsuitable. If, as he holds, arterial hypertension is not an established equilibrium, and if waves of increased pressure occur at certain periods of life, venesection should have a wide application.

The facts brought forward in this discussion indicate clearly that there is a large field of usefulness for venesection which is not at present fully exploited. Many of the points have not been mentioned in this short *résumé*. There is little danger at the present time of a practitioner being thought antiquated if he uses venesection in his everyday work. At the same time the indications must be studied with care so that anything in the way of a "fashion" will not result. There is a danger that the pendulum will swing back too far and that a useful weapon will be brought into disrepute.

Abstracts from Current Medical Literature.

DERMATOLOGY.

Staphylococcus Aureus Infections and a Scarlatiniform Rash.

F. A. STEVENS (*The Journal of the American Medical Association*, June, 1927) states that with the advance made in the diagnosis of scarlet fever the atypical and borderline cases should not present the same difficulties as heretofore. These borderline cases comprise two groups (i) the puerperal and surgical and (ii) those in which there is sufficient deviation from the usual signs and symptoms to render the diagnosis questionable. The author holds that the simplest and quickest test is a modification of the Schultz-Charlton test with convalescent scarlatinal serum. When either serum from convalescent patients or scarlatinal antitoxin is injected intracutaneously in an area covered with a florid rash, blanching occurs in approximately twenty-four hours. The histories of three patients are given in whom a scarlatiniform rash occurred as the result of an injection with *Staphylococcus aureus*. The conclusions are: (i) An exanthem may accompany *Staphylococcus aureus* infection. This exanthem is distinguished with difficulty from the rash occurring during injections with *Streptococcus scarlatinæ*. (ii) These cases may be distinguished by the absence of scarlatinal streptococcus, the presence of the staphylococcus and positive blanching phenomena with staphylococcus antitoxin serum.

Tinea Cruris.

H. W. ACTON and C. MCGUIRE (*The Indian Medical Gazette*, August, 1927) in a comprehensive article accompanied by coloured plates and microphotographs give the results of a study of the condition of *tinea cruris* in Calcutta. They call attention to the fact that *tinea cruris* is frequently wrongly diagnosed, especially when it attacks other parts of the body and produces such conditions as mangoe toe, foot-tethers, cheiropompholyx. The growth of the fungus is favoured by warmth, moisture and friction and the clinical manifestations are frequently disguised by a superadded streptococcus or staphylococcus infection. The foot is the commonest site of attack of the *Epidermophyton inguinale*, the nidus of the disease frequently being between the fourth and fifth toes. A rare complication is described by the infection of a ringworm lesion with the tubercle bacillus producing a verrucose tuberculide. In discussing the mycology the authors state that they used Sabouraud's maltose agar or moist plaster of Paris platforms for primary cultivation. They hold that the colour variations are solely due to substances in the media. They do not agree with Castellani that there are several forms of *tinea cruris*. The treatment consists in the use of mild lotions in the acute and infected stages, followed later by antiparasiticidal remedies. In the final and chronic stages the application of X rays is recommended.

An Endothelioma in an Infant.

E. I. LLOYD (*The British Journal of Dermatology and Syphilis*, July, 1927) reports the case of a tumour above the spine of the left scapula in an infant, aged fifteen months. The tumour was a raised, hard, conical mass 3·75 centimetres (one and a half inches) in diameter which appeared at birth as a small white spot. It was later taken to be a nævus. There was an enlarged axillary gland. The diagnosis microscopically rested between an endothelioma or an epithelioma arising from a congenital sebaceous adenoma.

Notes on Two Cases of Lichen Nitidus.

G. B. DOWLING (*The British Journal of Dermatology and Syphilis*, July, 1927) in reporting two further cases of *lichen nitidus* suggests that this condition may prove to be only a variety of *lichen planus*. One of the patients whose condition he reports, had a typical attack of *lichen planus* three months previously. He also states that in one of the previously reported cases *lichen planus* was present concurrently while in several of the others the histological picture could hardly be distinguished from *lichen planus*. There are, however, cases which present the sago grain appearance with an absence of itching and in which examination of a section reveals the epidermis to be eroded from beneath by masses of small round cells and epitheloid cells.

The Sugar Content of Whole Blood in Syphilis.

I. ROSEN and F. KRASNOW (*Archives of Dermatology and Syphilology*, July, 1927) have made a study of the sugar content of the blood in one hundred and twenty cases of syphilis with a view to finding whether there was any relation between the blood sugar and the progress of the disease. The analyses were made on whole blood and the method used was that of Folin and Wu. Of the one hundred and twenty syphilitic patients studied 68% had a blood sugar content of from seventy to one hundred milligrammes per hundred cubic centimetres of whole blood, 9% had a value below seventy milligrammes and 23% a value above one hundred milligrammes per hundred cubic centimetres. Of eighty-one syphilitic patients who had no food before the operation on the day of bleeding, the blood sugar value in 91% fell between seventy and one hundred milligrammes and 9% gave values above one hundred milligrammes per hundred cubic centimetres of whole blood. The percentage of the patients who fasted and whose blood sugar values were between seventy and one hundred milligrammes, was greater than that of the patients on an unrestricted diet. The blood sugar content was not below seventy milligrammes per hundred cubic centimetres of whole blood in any of the patients who fasted while that of 10% of the patients on an unrestricted diet fell below seventy milligrammes. The blood sugar value of only 9% of the patients who fasted, was above one hundred milligrammes as compared with 24% of those on an unrestricted diet. Patients who manifested a low or high blood sugar content when on an unrestricted diet, did not always give a corresponding value when fasting.

Dermatitis Produced by Balsam of Peru.

C. L. CUMMER (*Archives of Dermatology and Syphilology*, July, 1927) reports a case of dermatitis occurring in a man who was suffering from burns and on whom a stock ointment containing balsam of Peru was used. When the patient had recovered the effect of the balsam of Peru was again tested by applying a piece of lint covered with an ointment containing balsam of Peru to a small area of healthy skin. In twelve hours erythema with vesiculation was produced. It was probably a question of idiosyncrasy. The author discusses the references in the literature on the subject; many instances are quoted of the irritating and tonic external and internal effects of the drug. In one case a morbilliform erythema was seen.

Extensive Sarcoma of Skin Treated by Unfiltered X Rays.

L. F. CRAVER (*Archives of Dermatology and Syphilology*, July, 1927) describes a case of sarcoma of a large portion of one of the lower extremities. Multiple bleeding and necrotic tumours were present with loss of blood and toxæmia. There was a very foul stench arising from the sores. Unfiltered X rays at a target skin distance of 37·5 centimetres (fifteen inches) were used. A series of erythema doses extending over six months caused the condition to disappear. There was no recurrence after twenty-two months. The pathological report was that of a hæmorrhagic large spindle cell sarcoma. The presence of neurosarcoma and Kaposi's hæmorrhagic sarcoma was considered.

Syphilitic Macular Atrophy.

S. B. DOWLING (*The British Journal of Dermatology and Syphilis*, February, 1927) reports the case of a man, aged forty-four years, who complained of two separate eruptions, one a recent gummatous syphilide on the arm, the other a generalized eruption distributed on the trunk, neck and face of twenty-four years' duration. From the description given by the patient the secondary eruption which had appeared twenty-four years pre-

viously, was probably characterized by a more pronounced degree of tumescence than the ordinary type of secondary rash. In differential diagnosis the following conditions must be considered: (i) macular atrophy due to tuberculosis, (ii) *anetodermia erythematodes* of Jadassohn and (iii) multiple benign tumour-like new growths of Schweninger and Buzzi.

UROLOGY.

Diathermy in Genito-Urinary Diseases.

F. FUCHS (*Wiener Medizinische Wochenschrift*, May 21, 1927) refers to the value of surgical diathermy for vesical tumours. Two practical points are mentioned: the instillation of ten cubic centimetres of a 10% solution of "Collargol" as a sedative after diathermy and the advantage of waiting for two to four weeks before repeating the treatment. During this interval œdema of the bladder wall has subsided and the tumour area is more clearly defined than is usually the case when another application is made at shorter intervals. Preliminary diathermy is useful in conditions suitable for treatment by surgical means to check hæmorrhage and also to prevent a secondary spread such as frequently follows a surgical operation associated with much hæmorrhage. Diathermy is also indicated as a palliative measure for inoperable conditions. He has had good results with diathermy in the treatment of urethral caruncle. The urethra is either infiltrated with 0·5% "Novocaine" or a 3% to 5% solution is painted on the growth. The caruncle falls off in five days leaving a firm scar. Medical diathermy is of great value following nephrectomy, particularly for adhesions. It is also useful for painful scars or neuralgia of the ilio-inguinal and ilio-hypogastric nerves. Following nephrectomy for tuberculosis secondary deposits in the bladder may cause irritability to distension. Several applications will produce a definite improvement. While patients with chronic cystitis and pyelitis manifested no direct benefit as regards anatomical and inflammatory changes, the general condition of the patient was greatly improved.

The Diagnosis of Adrenal Tumours.

T. E. GIBSON (*Journal of Urology*, July, 1927) maintains that a differential diagnosis of adrenal tumours from other growths, as well as between cortical and medullary tumours of the gland itself, can be made from a study of their clinical manifestations. The added information gained by a urological investigation is often of decided value. Adrenal tumours in general produce three distinct syndromes. Cortical tumours give rise to the genito-suprarenal syndrome. The symptoms exemplify the endocrine activity of the cortex and consist of "virilism" or "pseudo-hermaphroditism" in the female and precocious puberty in the young male. The changes in both sexes are towards the adult male type. In the adult male, therefore, no symptoms of diagnostic importance occur in the sexual sphere. Cortical tumours are usually carcinomatous and may occur at any age. They appear to be as frequent in the infant as the adult and are more often met with in the female. Pigmentation of the skin occurs in only 3% of patients with cortical tumours; it does not occur in those with medullary tumours. Vascular hypertension is a moderately common symptom of cortical tumours, particularly in the young subject and is therefore of some diagnostic importance. Two types of neurocytoma are distinguished: (i) The Hutchinson type, characterized by early metastasis to the orbit, usually to the side on which the primary tumour is located, producing unilateral exophthalmos or proptosis of the eyeball; (ii) the Pepper type, characterized by rapid enlargement of the abdomen owing to liver metastases. The liver may become enormous and there are no other metastases as a rule. The prognosis of tumours of the suprarenal gland is nearly always bad because of the frequency with which metastatic phenomena are the first symptoms of the disease. This is particularly true of medullary tumours. The treatment is surgical and radiological. Although usually hopeless, operative interference is indicated in the hope of finding a benign growth or cyst or of removing a malignant tumour before metastasis has occurred. If surgery is contra-indicated, deep X ray therapy should be tried. A urological investigation is indicated as a preliminary to operation, not only in order to use pyelography in the diagnosis, but to determine the separate renal efficiencies, as it is very often necessary to remove the kidney with the tumour mass.

Congenital Hypertrophy of the Bladder Sphincter.

G. MARION (*Journal d'Urologie Médicale et Chirurgicale*, February, 1927) discusses a group of cases which form a subdivision of the category of diseases called "*prostatisme sans prostate*." The chief symptom in this particular group is an extreme difficulty in urination dating back as far as childhood or infancy. Nothing abnormal is felt *per rectum* and catheters pass easily. With the cystoscope a slight elevation may or may not be seen at some part of the internal meatus, but at suprapubic operation a definite thickening of the internal sphincter muscle is felt. There is, however, no contracture such as occurs in fibrosis of the bladder neck. The author has devised an operation which consists of removing the internal sphincter muscle by finger enucleation after encircling the internal meatus with an incision one centimetre distant from the orifice and sinking through the whole thickness of the bladder wall. The finger enters the breach so made and removes *en bloc* if possible or by *morcellement* all the tissues surrounding the bladder neck. The after treatment is the same as with prostatectomy and the results are excellent. Microscopical examination reveals that the removed specimen consists almost entirely of muscular tissue, hardly any connective and no fibrous tissue being present.

Pneumopyelography.

J. G. GOTTLIEB and F. J. STROKOFF (*Journal d'Urologie Médicale et Chirurgicale*, April, 1926) report on their success with pneumopyelography in their clinic at the University of Moscow. The injection of oxygen or air into the kidney in order to delineate the pelvis and calyces is not a new method, but having fallen into desuetude, is revived by the authors. The use of air as the pyelographic medium instead of a fluid has several advantages and the present writers have had such success with its routine use in their clinic that they confidently advise urologists to use the method. Pain caused by the irritating properties of the various chemicals used in pyelography is avoided by the use of air. This is particularly the case where there is a ureteric obstruction with consequent retention of fluids for a long time in the kidney. Such pain is as a rule not avoided, even if the pelvis is evacuated through the catheter after the picture is taken. With pneumopyelography the authors have avoided the production of pain in every case. The outline of the pelvis, calyces and ureter shows up with as much clearness as when iodides or bromides are used. A very important advantage of pneumopyelography is that when a shadow on the plain film is doubtful or when the presence of a calculus is strongly suspected but not revealed on the film, all doubt can be cleared up by the use of air. If a calculus is present, the presence of air around it makes it show up by contrast with startling clearness. Moreover a plain skiagram need not be made before the pyelogram, for the presence of air will not obscure a stone as will a liquid medium of about the same density as the calculus. Not only do calculi stand out with great distinctness, but their exact position in the calyces, pelvis or ureter is determined; this foreknowledge is of inestimable value to the surgeon at operation. Another important advantage of air as a medium is that it will always pass a ureteric obstruction, whereas fluid sometimes will not; so the surgeon can always be informed of the shape and size of the various parts of the urinary tract above the obstruction. As to the actual technique, the air is introduced slowly with a twenty cubic centimetre "Record" syringe or a larger one if a hydronephrosis is suspected, until the first sensation of discomfort is produced.

British Medical Association News.

SCIENTIFIC.

A Meeting of the Queensland Branch of the British Medical Association was held on July 1, 1927, at the B.M.A. Rooms, Adelaide Street, Brisbane, Dr. H. V. Foxton, the President, in the chair.

Death of Dr. W. F. Taylor.

Reference was made by the President to the death of Dr. W. F. Taylor and to the important part which he had played in the history of the Branch. A motion of sympathy with his relatives was carried.

Pregnant Bicornuate Uterus.

Dr. M. Graham Sutton reported a case and showed the specimen of a bicornuate uterus, with pregnancy in one of the horns. The condition had been correctly diagnosed before operation by Dr. E. S. Meyers who had referred the patient to him for admission into a public hospital. The patient, aged twenty-two years, had been admitted to the Lady Lamington Hospital for Women on May 22, 1927, complaining of pain in the lower part of the abdomen since May 13. The pain had been more acute on the right side and spasmodic in nature, associated with nausea and retching. There had been no loss of blood after the attacks of pain but on May 1 there had been slight bleeding *per vaginam*. There had been no morning sickness. The patient had had one child two years previously, since when her periods had been regular. The last period had been on March 13 and she had attributed her amenorrhœa to bathing in the sea at Easter time.

A general physical examination had revealed nothing abnormal. Pelvic examination had located the *cervix uteri* at five centimetres (two inches) from the vaginal orifice, pointing downwards and backwards. The cervix felt softer than normal. A mass about the size of a small orange had been felt in the right fornix and was movable with what had been taken as the body of a subinvoluted uterus. The bimanual examination had been thus interpreted and the patient had been diagnosed as suffering from an ectopic pregnancy.

Operation had revealed that the swelling was in fact that of a pregnant right cornu of a bicornuate uterus. The extreme thinness of the walls of the cornu had led to the belief that pregnancy would not proceed without accident and that hysterectomy was indicated. This had accordingly been performed. Whether such treatment was justifiable was open to discussion, more especially in view of the patient's previous pregnancy. There was, of course, the possibility that the previous gestation had occurred and proceeded in that portion of the uterine body below the bifurcation of the two horns.

Dr. Graham Sutton then illustrated the six main varieties of duplication of the uterus, namely *uterus didelphys, uterus bicornis bicollis, uterus bicornis unicollis, uterus septus, uterus subseptus* and *uterus unicornis* (with vestigial second horn). He illustrated these with sketch drawings and then showed the specimen which had been removed from the patient in question. It was a specimen of the variety known as *uterus bicornis unicollis*.

Fracture of the Astragalus.

Dr. L. M. McKillop then reported a case of fracture with subsequent complete excision of the astragalus. The patient, a lad of twelve years, had fractured the neck of the astragalus by a fall upon the feet and the violence had rendered the fracture compound. When seen, the wound on the outer aspect of the foot had become septic. Under appropriate treatment this had subsided. Following the method of Kocher, Dr. McKillop had performed complete excision of the talus in the Mater Misericordiæ Hospital. Massage and passive movement had been begun shortly after this, with the result that the boy had a quite satisfactory range of movement in the vertical axis of his new ankle joint. By building up the heel of the boot limping had been eliminated and members were able to see that the end-result was very satisfactory. Radiograms of the condition, both before and after operation, were also shown.

Old Injury to the Cauda Equina.

Dr. McKillop also showed an elderly man who gave a history of having fallen on his feet from a height of nine metres (thirty feet) twenty-seven years previously in Kalgoorlie. Immediate paralysis of both lower limbs had occurred, together with anæsthesia of the scrotum, penis and perineum and incontinence of bladder and rectum. After many months in hospital there had been gradual recovery of the muscles of the lower limb, but the anæsthesia of the perineum and the incontinence of bladder and rectum had persisted practically unchanged. Over this long period of many years the patient, a very intelligent man, had regularly emptied his bladder with a catheter and by care in diet and the use of suitable laxatives has been able to ensure a full evacuation of his bowels every four days. Some recovery of penile function had occurred fairly early, as he had procreated several children since the accident. Dr. McKillop then exhibited a skiagram, taken by Dr. Lockhart Spence, which showed a compression fracture of the body of the fourth lumbar vertebra. Dr. McKillop's chief reason, he said, for showing the patient and radiogram was to demonstrate that with care and cleanliness a life of usefulness was not necessarily incompatible with such a serious injury.

Diathermy in General Practice.

Dr. A. J. Reye read a paper entitled: "Diathermy in General Practice" (see page 566).

Dr. Milton Geaney related a personal experience in which he had been suffering from lumbago, and diathermy had proved very beneficial. He also referred to the use of diathermy in lobar pneumonia and thought this form of treatment should be much more beneficial than the usual poultices *et cetera*. He said he was opposed to its use in hyperpiesis. He considered that some cases of high blood pressure were nervous in origin and cited one in which the pressure had dropped forty millimetres after a little suggestion. He regarded the normal range of blood pressure as fairly wide (within physiological limits) and in reference to the condition in young people he mentioned the interesting result of some investigations on the subject. Out of 15,000 first year medical students examined, 10% to 15% had been found to have a blood pressure of 140 millimetres. He also referred to recent work in London on the treatment of vesical papillomata by diathermy.

Dr. E. S. Meyers congratulated Dr. Reye on his excellent paper which, he thought, covered a wide field. He was eager to know whether diathermy was of any value in the treatment of obesity, sterility and hydræmic nephritis. He regarded the removal of tonsils by diathermy as of very doubtful value. With regard to the use of diathermy in general practice, he thought there were certain definite disadvantages. It would be necessary, for example, to be in constant attendance or else to have a trained nurse to look after the patient. In regard to surgical diathermy he wanted to ask Dr. Reye whether he thought it better to remove a large growth *in toto* or else gradually in sections.

Dr. J. E. Streeter also congratulated the reader on his paper. He wanted to ask Dr. Reye whether he had tried diathermy in mild cases of chronic appendicitis. He (Dr. Streeter) had had some indifferent and some good results from using the method in *angina pectoris*. He considered diathermy a good method in tonsillectomy in the case of bleeders; he had employed it with some success. He wanted to emphasize the value of what was called the "auto-condensation" method on the couch, which in his opinion was an extraordinarily valuable method of treatment.

Dr. M. Graham Sutton related a personal experience in which diathermy had benefited him very much. He went on to say that he had had some experience in the matter of surgical diathermy and agreed with Dr. Reye in regard to the need for caution in the use of diathermy.

He mentioned a case of a bladder growth and also a method whereby the strength of the current was fairly well controlled. In regard to the treatment of dysmenorrhœa he thought the same result could be gained by other and simpler methods.

Dr. R. Graham Brown wished to thank Dr. Reye for his paper. He referred to some of the pioneering work in diathermy with which he had been associated as far back as 1912. He reminded Dr. Streeter of the practical non-existence of serious hæmorrhage in tonsillectomy. He said that there were two groups of "bleeders," namely, the true hæmophiliacs and the others. The latter group usually bled as a result of faulty instruments or bad surgery. By the none-use of the old and fearsome "gag" of former days and the careful use of "Hæmostatic serum" the chances of næmorrhage could be reduced to a minimum and the operation of tonsillectomy be practically always possible without the use of diathermy. He advocated the latter method, however, in the case of malignant disease around the mouth, but deprecated the use of surgical diathermy in such conditions when the patient was a "bleeder." In his opinion there was sure to be trouble if this stipulation were disregarded. With regard to a general anæsthetic and the use of diathermy about the mouth, he cited a case of great possibilities in which the ether had actually caught fire. Concerning hyperpiesis and its reduction by diathermy, he pointed out that there were two types of high blood pressure, the toxic and the true arteriosclerotic. In the first one should always seek the septic focus causing the toxæmia.

Dr. Arthur Murphy also thanked Dr. Reye for his very interesting paper. He agreed with Dr. Graham Brown in deprecating the use of diathermy in tonsillectomy. He wanted to ask Dr. Reye about two cases of his: (i) a case of ruptured suppurating appendix in which pain had increased after diathermic applications and (ii) a case of a man complaining clinically of lumbago in which there had been no relief at all from regular diathermy, but relief had been obtained by an irregular faradic current. He was eager to have an explanation of these two cases from Dr. Reye.

Dr. C. F. de Monchaux referred to the use and value of diathermy in the treatment of acute and subacute gonorrhœa. As in most acute inflammatory infective conditions, so in ordinary gonorrhœa (an infection caused by other pyogenic organisms as well as the much-maligned gonococcus) he regarded diathermy as both a most logical and physiological method of treatment. Inflammation after all, the speaker said, was a purely physiological and protective process on the part of the tissues of the invaded organ and diathermy was an excellent copy of Nature's own method, leading as it did to the production of heat and the consequent induction of hyperæmia and leucocytosis in the affected part. Inflammation was both a defensive and an aggressive mechanism, calculated to protect the invaded host and to attack and destroy, if possible, the invading organisms. In other words, inflammation should be regarded much more as a physiological than as a pathological process. Diathermy the effects of which simulated those of ordinary inflammation, was a most physiological form of treatment, in that it both increased the resistance and defences of the invaded organ and diminished the virulence and attack of the invading organisms.

Dr. Val McDowall, in thanking Dr. Reye for his paper, expressed satisfaction that he had tempered his enthusiasm with common sense—a very necessary thing indeed. Dr. Reye had omitted, however, any reference to the treatment of bone conditions with diathermy, such as occurred in extensive rodent ulcers, many of which he had seen. In such cases he advocated diathermy.

Dr. W. N. Markwell also joined in congratulating Dr. Reye and wished to know from him whether diathermy had been used and was at all beneficial in cases of poliomyelitis.

Dr. H. V. Foxton added his thanks and congratulations to the reader of the paper which he had found most thoughtful and instructive. It was a wonder, he said, that diathermy was not used more extensively in medical practice and he cited his own experience in cases of malignant disease of the pharynx *et cetera*. He felt it hard to conceive, however, that diathermy would be superior to surgery in the treatment of tonsillar conditions. He supported Dr. Graham Brown and Dr. Murphy in this contention.

Dr. A. J. Reye in reply thanked his hearers and those who had discussed his paper, for their kind attention and appreciation. He wanted to stress that he had spoken from the viewpoint of the general practitioner. Regarding the vexed question of diathermy in tonsillectomy and in answer more particularly to Drs. Foxton, Brown, Murphy and Streeter, he pointed out that the method was to use a flat electrode which he considered risky. There had been, he said, many accidents at first and this had led to the abandonment of the method. At the present time one tonsil was operated upon at a time and in his opinion it was not possible to remove a tonsil thoroughly with one application of diathermy. Accordingly, it took some time to do a tonsillectomy by diathermy. A lot depended on the man behind the method, of course, and he emphasized that sparking should not be allowed to occur, but that slow coagulation should be effected with a slow current. The fear of hæmorrhage, he thought, kept many people suffering from septic tonsils away from the surgeon. He agreed with Dr. Geaney that it was serious at times to lower the blood pressure, especially in the arteriosclerotic types. Replying to Dr. Meyers with regard to obesity, he related a case of a thyreoid deficiency in which the patient had improved on thyreoid medication, but in which still greater improvement had occurred when this was coupled with diathermy. In regard to dropsical and similar conditions he recalled the case of a man with a failing heart and extreme dropsy in whom one application of diathermy had been beneficial. The dropsy had subsided on the spot where the diathermy had been applied. He had had no experience with cases of sterility or hydræmic nephritis. In regard to the excision or removal of large growths he went on to explain the method he himself advocated. A circumambient area of coagulation was first marked out with a blade and the whole area ultimately granulated. He added that the thermopyle had been used in America with great success and that there were methods of controlling and recording the amount of current used. Thermometers were not of much use in this work, as the mercury was often affected. In regard to the use of diathermy in tonsillectomy he was of the opinion that there was much to say on both sides. As for malignant growths about the mouth, he suggested that either the lingual artery or the external carotid might be ligatured. In reply to Dr. Murphy's questions he thought the explanation of the first case might lie in somewhat faulty technique; too much current, for example, might cause excessive hyperæmia and so increase of local pressure with consequent pain. As for the patient with lumbago he thought that this was probably the one condition in which static electrical treatment was to be recommended.

Referring to Dr. de Monchaux's remarks on the use of diathermy in the treatment of gonorrhœa, he thought that the heat produced in the tissues by diathermy should also be instrumental in exerting a bactericidal effect on the organisms present. In other words according to what was known of the gonococcus and allied organisms, the great heat should actually kill them. This effect alone was noteworthy and desirable, apart altogether from the facts that Dr. de Monchaux had mentioned, namely, that the heat produced locally would induce hyperæmia *et cetera* and so increase the resistance and phagocytic powers of the affected part.

With reference to Dr. McDowall and the use of diathermy in certain bone conditions, he thoroughly indorsed its value and stated that, though formerly decried, diathermy was now accepted as an excellent method of treatment in such conditions.

In answer to Dr. Markwell's query about anterior poliomyelitis and diathermy, he mentioned that Sir Robert Jones had deprecated the use of static electrotherapy in such conditions. In his opinion, however, it was always necessary to distinguish between those electric currents (static) which irritated and stimulated and those, such as diathermy, which appeased or acted as sedatives. It was probable, he thought, that Sir Robert Jones's dictum

with regard to static electrical treatment had even put people off the use of diathermy in the condition of poliomyelitis.

NOMINATIONS AND ELECTIONS.

The undermentioned have been elected members of the Victorian Branch of the British Medical Association:

Kennedy, Patrick Adrian Cattanach, M.B., B.S., 1926 (Univ. Melbourne), Mooroopna.
Hanrahan, Henry John Chatwick, M.B., B.S., 1927 (Univ. Melbourne), St. Kilda.
McGinn, Keith Edward, M.B., B.S., 1927 (Univ. Melbourne), 32, Wimble Street, Parkville
Bray, Lorna, M.B., B.S., 1925 (Univ. Melbourne), Yarrawonga.
Enniss, Harley John, M.B., B.S., 1927 (Univ. Melbourne), Camberwell.
Keon-Cohen, Bryan Tobyn, M.B., B.S., 1927 (Univ. Melbourne), East Melbourne.
Ellery, Reginald Spencer, M.B., B.S., 1923 (Univ. Melbourne), Mont Park).

MEDICO-POLITICAL.

MEETING OF THE FEDERAL COMMITTEE.

A MEETING OF THE FEDERAL COMMITTEE OF THE BRITISH MEDICAL ASSOCIATION IN AUSTRALIA was held on September 29 and 30, 1927, at the B.M.A. Building, 30-34, Elizabeth Street, Sydney, SIR GEORGE A. SYME, K.B.E., the Chairman, in the chair.

Representatives.

The following representatives of the Branches were present:

New South Wales Branch: Dr. R. H. Todd, Dr. J. Adam Dick, C.M.G.
Victorian Branch: Sir George A. Syme, K.B.E., Dr. R. H. Fetherston.
Queensland Branch: Dr. C. Gifford Croll, C.B..
South Australian Branch: Dr. H. S. Newland, C.B.E., D.S.O., Dr. Bronte Smeaton.
Tasmanian Branch: Dr. Gregory Sprott, Dr. E. Brettingham-Moore.

Apologies for non-attendance were received from Dr. F. A. Hadley and from Dr. D. D. Paton, representing the Western Australian Branch and from Dr. W. N. Robertson, C.B.E., representing the Queensland Branch. Dr. Paton appointed Dr. R. H. Todd to act as proxy.

Financial Statement.

The financial statement of the Federal Committee, duly audited by the Honorary Auditor, was received and adopted.

Medical Officers' Relief Fund (Federal).

The trustees of the Medical Officers' Relief Fund (Federal) forwarded their report and balance sheet for the twelve months ended June 30, 1927. It was resolved that the report and balance sheet be received.

Correspondence.

A reply was received from Dr. J. Lockhart Gibson thanking the Committee for its letter in which the Committee conveyed to him its appreciation of his services to the Committee during the ten years of his membership.

A letter was also received from His Excellency Lieutenant-General Sir Thomas Goodwin, K.C.B., C.M.G., D.S.O., acknowledging the welcome and greeting of the Federal Committee on his entering upon his office as Governor of Queensland.

National Insurance.

The Honorary Secretary reported that Senator J. D. Millen in his capacity as Advisory Committee to the Federal Government in connexion with the National Insurance Bill had visited the Branches of the Association in several of the States for the purpose of discussing medical certification in regard to sickness benefit under the national insurance scheme. It was desired that suggestions should be put forward by the medical profession for this purpose. A discussion ensued in the course of which proposals put forward by the New South Wales, Victorian and South Australian Branches, were considered. It was pointed out that the majority of persons who sought certificates, would be under medical treatment and that certificates would in these circumsances be given by the medical attendant. A smaller number would consult a medical practitioner or would require to be visited for the sole purpose of certification and it was agreed that remuneration for certificates should be varied according to these circumstances. After discussion it was decided that the following proposals should be placed before Senator Millen:

1. That in regard to supervision of certification, safeguards should be established against the loose giving of certificates and against faulty and unscientific wording by the appointment of full time medical referees; also that provision should be made in the Statute for the giving of false or misleading certificates to be regarded as an offence punishable on summary conviction or otherwise and to constitute infamous conduct in a professional respect within the meaning of these words as used in the Medical Acts in the several States or the Medical Acts of the United Kingdom.

2. In regard to administrative control that an advisory medical committee of three be appointed in each State on the nomination of the British Medical Association Branch Council.

3. That the maximum requirements of the certificate should be:

(*a*) Name and age, occupation and address of insured person;
(*b*) The nature of the disease, which should be expressed in terms according to the International List of Diseases;
(*c*) The probable duration of the incapacity;
(*d*) Reference to the total incapacity of the invalid.

4. That the duration of the certification be seven days.

5. That means be taken to prevent claimants from using certificates for other purposes.

6. In regard to fees for certificates—

(*a*) Where the certificate is given by the legally qualified medical practitioner in attendance on the claimant, the fee should be 5s. for first certificate and 2s. 6d. for a progressive certificate;
(*b*) Where the certificate is given by a legally qualified medical practitioner who is not in attendance, the fee should be 7s. 6d. for a first certificate and 5s. for a progressive certificate.

Subsequently Senator J. D. Millen met the members of the Federal Committee and discussed the above proposals.

British Medical Association Scholarships and Grants.

It was noted that an Ordinary British Medical Association Scholarship had been awarded to Dr. G. R. Cameron.

Rules Governing Procedure in Ethical Matters.

The Honorary Secretary reported that he had received from the Medical Secretary of the British Medical Association copies of revised rules governing procedure in ethical matters. He pointed out that the Central Ethical Committee urged that Branches should adopt these rules adapted to the special conditions prevailing in Australia. He had sent copies to all the Branches in Australia and had received several replies supporting the proposal to adopt rules. It was resolved that model rules governing procedure in ethical matters, applicable to

FEDERAL COMMITTEE OF THE BRITISH MEDICAL ASSOCIATION IN AUSTRALIA.

STATEMENT OF RECEIPTS AND PAYMENTS FOR SIX MONTHS ENDED JUNE 30, 1927.

RECEIPTS.	£ s. d.	£ s. d.
To Balance at December 31, 1926—		
Government Savings Bank of New South Wales	427 19 11	
Union Bank of Australia Ltd.	354 15 11	
Cash on hand	4	
		782 16 2
„ Interest—		
Government Savings Bank of New South Wales		16 3 6
		£798 19 8

PAYMENTS.	£ s. d.	£ s. d.
By Travelling Expenses		52 3 4
„ Sundry Expenses		116 9 10
„ Balance at June 30, 1927—		
Government Savings Bank of New South Wales	544 3 5	
Union Bank of Australia Ltd.	85 11 7	
Cash on hand	11 6	
		630 6 6
		£798 19 8

AUSTRALASIAN MEDICAL CONGRESS (BRITISH MEDICAL ASSOCIATION) ACCUMULATED FUNDS ACCOUNT.

RECEIPTS.	£ s. d.	£ s. d.
To Balance at December 31, 1926—		
Government Savings Bank of New South Wales		278 12 2
„ Repayment of Advance—Dunedin, New Zealand		200 0 0
„ Interest—		
Government Savings Bank of New South Wales		13 15 8
		£492 7 10

PAYMENTS.	£ s. d.	£ s. d.
By Sundry Expenses—		
Clerical Assistance		7 10 0
„ Balance at June 30, 1927—		
Government Savings Bank of New South Wales		484 17 10
		£492 7 10

(Sgd.) ROBT. H. TODD,
Hon. Secretary.

Audited and found correct—
(Sgd.) W. H. CRAGO,
Hon. Auditor.

Sydney, September 23, 1927.

MEDICAL OFFICERS' RELIEF FUND (FEDERAL).

Balance Sheet as at June 30, 1927.

LIABILITIES.	£ s. d.	£ s. d.
Accumulated Revenue Account—		
Balance at June 30, 1926	11,559 2 7	
Add Balance from Revenue Account for year ended June 30, 1927	13 5 0	
		11,572 7 7
		£11,572 7 7

ASSETS.	£ s. d.	£ s. d.
Investments—		
6% 1930 Commonwealth Treasury Bonds	1,000 0 0	
5% 1948 Commonwealth Treasury Bonds	250 0 0	
British Medical Association, N.S.W. Branch Building Account Debentures	300 0 0	
		1,550 0 0
Loans Bearing Interest		8,662 0 0
Fixed Deposit, Bank of New South Wales		1,000 0 0
Amount in Hands of Local Committee, Queensland		5 0 0
Bank of New South Wales Current Account		355 7 7
		£11,572 7 7

Revenue Account for the Twelve Months Ended June 30, 1927.

	£ s. d.	£ s. d.
To Benefactions	232 5 0	
„ Amount of Loan Written Off	250 0 0	
„ Expenses	18 11 0	
„ Balance to Accumulated Revenue Account	13 5 0	
	£514 1 0	

	£ s. d.	£ s. d.
By Interest on Investments and Loans	517 11 10	
Less Interest on Bank Overdraft	3 10 10	
		514 1 0
		£514 1 0

We have examined the books, vouchers and securities of the Medical Officers' Relief Fund (Federal) and we certify that in our opinion the foregoing Balance Sheet is properly drawn up so as to exhibit a true and correct view of the financial position of the fund as at June 30, 1927.

(Sgd.) COATES, CUNNINGHAM & COMPANY,
Public Accountants.

Sydney, September 17, 1927.

Australian conditions, should be drafted and submitted to the Branches in time for their consideration before the next meeting of the Committee.

Federal Capital Territory.

Sir George Syme reported that he had recently been at Canberra and had seen the five acres to be reserved for scientific purposes. The site was an admirable one. It was situated opposite that allocated to the University and it adjoined that on which the National Museum of Zoology would shortly be built. The Commission had stated that it would be reserved unconditionally for a period of five years. No rent was being paid at the present time and the Commissioner had stated that he was prepared to recommend to the Government that the building conditions be waived for the time being. Sir George Syme said that he had interviewed the Commissioner as President of the College of Surgeons of Australasia. He thought that the position of the Federal Committee of the British Medical Association should be definitely ascertained. It was resolved that the Honorary Secretary should write to the Commission referring to previous correspondence and inquiring in regard to the steps that had been taken.

Australasian Medical Congress (British Medical Association).

At the meeting of the Federal Committee, held in Melbourne in April, 1927, a communication was read from the General Secretary of the Second Session of the Australasian Medical Congress (British Medical Association), Dunedin, 1927, forwarding from the Executive Committee a number of propositions received by it from sections of Congress, also some suggestions by the Honorary Treasurer of the Congress for improvement of the financial arrangements of Congress (see The Medical Journal of Australia, April 2, 1927, pages 520, 521 and 522). Consideration of these matters had been deferred.

Chairs of Bacteriology.

A proposition had come from the Section of Pathology and Bacteriology dealing with the question of the establishment of chairs of bacteriology in the following terms:

> That it be recommended to the governing bodies of those universities of Australia which have medical schools, that chairs of bacteriology, to include immunology, would further medical research, medical education and the public health.

In the course of discussion Sir George Syme said that a recommendation of this nature was particularly useful, especially in view of the present state of affairs at Melbourne University. It was resolved that the proposal be sent to the governing body of each of the universities in Australia as a recommendation of the Federal Committee.

Registration of Opticians.

The Section of Ophthalmology had raised objections to the registration of sight-testing or consulting opticians. It was resolved:

> That the Government of each State be communicated with to the following effect, namely, that in the opinion of the Federal Committee it is not in the public interest to register sight-testing or consulting opticians.

Staff Ride.

A recommendation was received from the Section of Naval and Military Medicine and Surgery urging the continuance of the medical tactical exercise in subsequent sessions of the Australasian Medical Congress (British Medical Association). It was also suggested that at future sessions the papers presented at the Section of Naval and Military Medicine and Surgery should be diminished in number in order to permit members to attend the meetings of the other sections. It was decided to send the recommendations on to the Executive Committee of the Third Session for its information.

Hydatid Disease.

Proposals in regard to the question of the prevention of hydatid disease had been received from a combined meeting of the Sections of Surgery, Radiology, Pathology and Bacteriology. Professor Hercus had pointed out that hydatid disease was notifiable in New Zealand, but was not so in Australia. He had suggested that legislation should be introduced into Australia to make hydatid disease notifiable and that stricter attention should be paid to notification in New Zealand. He had also laid emphasis on the necessity for greater control of slaughter houses, especially in regard to the boiling of offal and the exclusion of dogs. Moreover, on the registration of dogs full information should, he thought, be given in regard to the importance and prevalence of the disease and the mode of infection. The importance of vermifuges should be made clear, especially to those of the farming community. It was resolved:

> That the Commonwealth Department of Health be asked to make investigations into the prevalence of hydatid disease and to secure the cooperation of the Department of Health in each State in regard to measures for its prevention.

The Public Health Nurse.

A committee set up by the Section of Preventive Medicine had forwarded the following statement:

> 1. That a fully qualified and properly trained nurse is an important link in the public health machine.
>
> 2. That the public health nurse in addition to her ordinary nursing and midwifery qualification should be the possessor of a certificate for post-graduate study in public health nursing.
>
> 3. That from the point of view of status and training it is desirable that this course of instruction should be given at a university medical school.
>
> 4. That for these reasons this Committee recommends the respective Governments of Australia and New Zealand to inaugurate such schemes for the training of public health nurses.

Reference was made to the inadequate remuneration that was paid to some nurses engaged in public health work and it was decided to send on the recommendation of the Section of Preventive Medicine to the Commonwealth Department of Health and to the Health Departments of the several States.

Mental Hygiene.

The Section of Neurology and Psychiatry forwarded a recommendation in regard to the formation of separate Australian and New Zealand Councils for Mental Hygiene on similar lines to the British Council for Mental Hygiene. It was decided to defer consideration of the matter until further inquiry had been made in regard to the British Council for Mental Hygiene.

Financial Arrangements of Congress.

The suggestions made by the Honorary Treasurer of the Second Session of Congress were considered. It was pointed out that it was not possible to enforce membership of a congress. The Chairman thought that while it was possible to advise the adoption of any scheme, the matter under consideration was one for each Branch. The Committee recognized the enormous amount of work which had been given to the question by the Honorary Treasurer of the Second Session and it was decided to thank him for his suggestions and to send them on to the Executive Committee of the Third Session.

Future Congresses.

The suggestion of the Honorary Treasurer of the Second Session in regard to the selection of the State in which a congress was to be held at a sufficiently early date to allow of the carrying out of original work on a subject in which that State was concerned, was adopted and it was decided to notify the Branches that the Federal Committee was prepared to receive invitations for the Fourth Session.

Third Session of Congress.

It was noted that the invitation of the New South Wales Branch to hold the Third Session in Sydney had been accepted and that the inaugural meeting had been fixed by the Executive Committee to be held in the second half of September, 1929.

President of the Third Session.

The nomination of Sir Alexander MacCormick, K.C.M.G., as President of the Third Session was received from the New South Wales Branch and his appointment was made accordingly.

Executive Officers of the Third Session.

It was noted that a General Committee, an Executive Committee and a Finance Committee had been appointed, that Dr. A. A. Palmer and Dr. T. W. Lipscomb had been appointed Joint Honorary Secretaries and Dr. W. H. Crago Honorary Treasurer.

Preliminary Expenses of Third Session.

At the request of the Joint Honorary Secretaries the sum of one hundred pounds was advanced to the Executive Committee of the Third Session.

Model Form of Agreement for Medical Officer and Friendly Society Lodge.

The question of payment for a lodge member examined and passed by the medical officer of a lodge during the currency of a quarter was raised. The clause in the common form of agreement dealing with this matter concludes as follows:

> No name shall be added to or removed from the list during any quarter provided that, in the case of a member examined and passed by the Medical Officer during the currency of a quarter, his name shall be added to such list forthwith and payment in respect of such member shall be made to the Medical Officer as from the commencement of the month following the examination.

It was explained that the Queensland Branch desired to have the word "of" inserted. After discussion it was decided to retain the word "following."

Workers' Compensation Acts.

It was decided to recommend to the Branches in each State to add to the model lodge agreement provisions in regard to *Workers' Compensation Acts* when required.

Campaign Against Pulmonary Tuberculosis.

A communication was read from the Queensland Branch outlining procedure for a campaign against pulmonary tuberculosis which it was suggested should be placed before the Commonwealth Government. The Chairman pointed out that this matter had been considered by the Royal Commission on Health (see THE MEDICAL JOURNAL OF AUSTRALIA, January 16, 1926, page 64). It was decided to ask the Queensland Branch to formulate a concrete scheme and and to draw the attention of the Branch to the findings of the Royal Commission.

Representation of the Branches in the Federal Committee.

At a previous meeting of the Federal Committee it had been suggested that the Branches consider the advisability of having only one representative instead of two. Two of the Branches, Western Australian and New South Wales, had replied that they desired to retain the practice of having two representatives. It was decided that nothing further should be done in the matter.

Travelling Medical Officers for Life Assurance Societies.

A letter was read from the Council of the South Australian Branch asking the Federal Committee to consider the question of securing uniform rates of pay and conditions for travelling medical examiners for life assurance companies. It was resolved:

> That representations be made to the Association of Life Assurance Companies in Sydney suggesting that in future no arrangements be made directly between agent and medical examiner and that the basis of payment should be full travelling and hotel expenses, not less than one guinea for each examination and that a minimum of one guinea per day be paid.

Application for Membership of a Branch.

A letter was read from the Queensland Branch suggesting that a *questionnaire* be submitted to all applicants for membership of a Branch. It was pointed out that frequently little was known of persons who wished to join a Branch, and that if they were required to submit answers to a *questionnaire*, the Council of the Branch would gain information of their previous ethical relationships. It was resolved that the practice of instituting a *questionnaire* be adopted.

A proposal was also brought forward that Article 17 of the Articles of Association of the British Medical Association should be altered. According to this Article a member of the Association on changing his place of residence from the area of one Division or Branch to that of another *ipso facto* becomes a member of the latter Division or Branch. It was held that this might act prejudiciously to the interests of the latter. It was thought that instead of the words "*ipso facto*" in the Article the words "subject to the approval of that Division" might be substituted. It was resolved:

> That the Secretary request the Council of the British Medical Association to alter Article 17 of the Articles of Association as far as it applies to overseas Divisions.

Medical Association of Australia (British Medical Association).

A letter was read from the Queensland Branch in regard to the establishment of a "Medical Association of Australia (British Medical Association)." The matter was referred back to the Queensland Branch for amplification.

Transfer of Membership.

A communication was received from the Western Australian Branch recommending (i) that Branches should on each occasion of refusing to elect a practitioner as a member, advise other Branches immediately; (ii) that Branches should not accept as a transferred member from another Branch a medical practitioner whom they have already refused to elect. As this matter was already covered by the determination in regard to Article 17, no further action was taken.

Medical Research Council.

The Victorian Branch forwarded a resolution which it had submitted to the Prime Minister as follows:

> That the Council favours the proposal of the Health Commission that a Medical Research Council be established in Australia, but desires that the Council and its workers shall not be under the Public Service Regulations; that the personnel of the Council shall consist essentially of research men with Parliamentary representation.

No action was taken.

Remuneration of Ships' Surgeons.

The Secretary reported that a letter had been received from the Australasian Steamship Owners' Federation advising that a new schedule of fees to be charged by ships' surgeons on the ships controlled by the Federation had been drawn up. Under the old schedule medical officers had charged five shillings for each attendance on first and second saloon passengers and third class passengers and the crew were treated without fee, but under the new schedule the rates were to be seven shillings and sixpence for each attendance on first saloon passengers, five shillings on second saloon passengers and two shillings and sixpence on third saloon passengers. The crew would be attended without charge. It was resolved to notify

the Branches of the new arrangement and to ask them to inform their members.

Next Meeting.

After some discussion on the advisability of holding the next meeting in Canberra, it was resolved that the next meeting be held in Melbourne and that the date should be determined by the Chairman.

Condolence with Dr. W. N. Robertson.

It was resolved to send a telegram condoling with Dr. W. N. Robertson in his illness and expressing the hope for his speedy and complete recovery.

Votes of Thanks.

Hearty votes of thanks were extended to the Chairman, Sir George Syme, for the admirable manner in which he had conducted the meetings, to the Council of the New South Wales Branch for having found accommodation for the Committee and to the Acting President and the Council of the New South Wales Branch for their hospitality in entertaining the members of the Committee at dinner.

Books Received.

THE INVERT AND HIS SOCIAL ADJUSTMENT, by Anomaly, with an Introduction by Robert H. Thouless, M.A., Ph.D.; 1927. London: Baillière, Tindall and Cox. Foolscap 8vo., pp. 192. Price: 5s. net.

TO WHOM IT MAY CONCERN: A POPULAR ADDRESS ABOUT SMALLPOX AND VACCINATION, by Dr. Wanklyn, B.A. (Cantab.), M.R.C.S., L.R.C.P., D.P.H.; London: The Voluntary Service Fund. Demy 8vo., pp. 34. Price: 1s. 6d. net.

AIDS TO BIOCHEMISTRY, by E. Ashley Cooper, D.Sc. (London), F.I.C., A.R.C.S. (London), and S. D. Nicholas, B.A. (Oxon.), A.I.C.; 1927. London: Baillière, Tindall and Cox. Foolscap 8vo., pp. 196, with illustrations. Price: 4s. 6d. net.

BEHIND THE SCREENS, by *"Autre Droit"*; 1925. Melbourne: Lothian Publishing Company, Proprietary Limited. Crown 8vo., pp. 165.

AIDS TO GYNÆCOLOGY, by Richard E. Tottenham, B.A., M.D., D.P.H. (Dublin), F.R.C.P.I.; Seventh Edition; 1927. London: Baillière, Tindall and Cox. Foolscap 8vo., pp. 140, with illustrations. Price: 3s. net.

Diary for the Month.

Oct. 25.—New South Wales Branch, B.M.A.: Medical Politics Committee.
Oct. 25.—Illawarra Suburbs Medical Association, New South Wales.
Oct. 26.—Victorian Branch, B.M.A.: Council.
Oct. 27.—New South Wales Branch, B.M.A.: Branch.
Oct. 27.—South Australian Branch, B.M.A.: Branch.
Oct. 28.—Queensland Branch, B.M.A.: Council.
Nov. 1.—Tasmanian Branch, B.M.A.: Council.
Nov. 2.—Western Australian Branch, B.M.A.: Council.
Nov. 3.—Section of Orthopædics, New South Wales Branch, B.M.A.
Nov. 4.—Queensland Branch, B.M.A.: Branch.
Nov. 8.—Tasmanian Branch, B.M.A.: Branch.
Nov. 8.—New South Wales Branch, B.M.A.: Ethics Committee.
Nov. 9.—Victorian Branch, B.M.A.: Branch, last date of nominations for Council.
Nov. 9.—Central Northern Medical Association, New South Wales.
Nov. 10.—Victorian Branch, B.M.A.: Council.

Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants, *locum tenentes* sought, etc., see "Advertiser," page xviii.

Commonwealth Department of Health: Director, Division of Maternal and Child Welfare.

The Adelaide Children's Hospital, Incorporated: Honorary Assistant Physician to Skin Department.

Medical Appointments: Important Notice.

Medical practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

BRANCH.	APPOINTMENTS.
New South Wales: Honorary Secretary, 30 - 34, Elizabeth Street, Sydney.	Australian Natives' Association. Ashfield and District Friendly Societies' Dispensary. Balmain United Friendly Societies' Dispensary. Friendly Society Lodges at Casino. Leichhardt and Petersham Dispensary. Manchester United Oddfellows' Medical Institute, Elizabeth Street, Sydney. Marrickville United Friendly Societies' Dispensary. North Sydney United Friendly Societies. People's Prudential Benefit Society. Phœnix Mutual Provident Society.
Victorian: Honorary Secretary, Medical Society Hall, East Melbourne.	All Institutes or Medical Dispensaries. Australian Prudential Association Proprietary, Limited. Mutual National Provident Club. National Provident Association. Hospital or other appointments outside Victoria.
Queensland: Honorary Secretary, B.M.A. Building, Adelaide Street, Brisbane.	Members accepting appointments as medical officers of country hospitals in Queensland are advised to submit a copy of their agreement to the Council before signing. Brisbane United Friendly Society Institute. Stannary Hills Hospital.
South Australian: Secretary, 207, North Terrace, Adelaide.	All Contract Practice Appointments in South Australia. Booleroo Centre Medical Club.
Western Australian: Honorary Secretary, 65, Saint George's Terrace, Perth.	All Contract Practice Appointments in Western Australia.
New Zealand (Wellington Division): Honorary Secretary, Wellington.	Friendly Society Lodges, Wellington, New Zealand.

Medical practitioners are requested not to apply for appointments to positions at the Hobart General Hospital, Tasmania, without first having communicated with the Editor of The Medical Journal of Australia, The Printing House, Seamer Street, Glebe, New South Wales.

Editorial Notices.

Manuscripts forwarded to the office of this journal cannot under any circumstances be returned. Original articles forwarded for publication are understood to be offered to The Medical Journal of Australia alone, unless the contrary be stated.

All communications should be addressed to "The Editor," The Medical Journal of Australia, The Printing House, Seamer Street, Glebe, Sydney. (Telephones: MW 2651-2.)

Subscription Rates.—Medical students and others not receiving The Medical Journal of Australia in virtue of membership of the Branches of the British Medical Association in the Commonwealth can become subscribers to the journal by applying to the Manager or through the usual agents and booksellers. Subscriptions can commence at the beginning of any quarter and are renewable on December 31. The rates are £2 for Australia and £2 5s. abroad *per annum* payable in advance.

BAILLIÈRE, TINDALL & COX'S

IMPORTANT ANNOUNCEMENTS.

Royal 8vo. Pp. xii + 450. With 143 Illustrations and many Formulæ. 36 Coloured Plates.

Second Edition Now Ready. **Price 25s.**

"MACKENNA'S DISEASES OF THE SKIN"

By ROBERT W. MACKENNA, M.D., B.Ch. (Edin.), Lecturer in Dermatology, University of Liverpool.

"A book which is a credit to British Dermatology. The author gives a very complete survey of the whole field of dermatology. It will prove a boon to the busy practitioner."—BRITISH JOURNAL OF DERMATOLOGY.

NOW READY. THE TRUDEAU FOUNDATION STUDIES. VOLUME II.

Royal 8vo. Pp. xvi + 342, with 4 coloured Plates and 82 other Illustrations. Price 21s.

"TUBERCULOSIS: Bacteriology, Pathology, and Laboratory Diagnosis, with Sections on Immunology, Epidemiology, Prophylaxis, and Experimental Therapy"

By EDWARD R. BALDWIN, M.D., Director of the Trudeau Foundation; S. A. PETROFF, Ph.D., Bacteriologist and Director, Trudeau Sanatorium Research and Clinical Laboratory; and LEROY U. GARDNER, M.D., Pathologist and Director of Saranac Laboratory for the Study of Tuberculosis.

This volume describes the results of the authors' own study and experience. Most of the technical methods described have been fully tried both in the Saranac and the Trudeau Sanatorium Laboratories, which are jointly operated by the Trudeau Foundation as teaching and research institutions in addition to their functions as clinical laboratories. *New methods*, many original with the authors, are given in detail.

NOW READY. Demy 8vo. Pp. xii + 308. Price 16s.

"MEDICAL INSURANCE EXAMINATION: Modern Methods and Rating of Lives"

FOR MEDICAL PRACTITIONERS AND INSURANCE OFFICIALS.

By J. PATERSON MACLAREN, M.A. (Double Honours), B.Sc., M.B., C.M. and J.P. (Glasgow University and London Hospitals), late Examiner for University of Cape of Good Hope and Chief Insurance Medical Officer.

NOW READY. Ninth Revised Edition. (With the introduction of several hundred new titles.)
4to. Pp. xii. + 1,146, double columns, with 15 plates and over 400 Illustrations, of which 61 are coloured. Limp leather, with thumb cut index. Price 35s.

"STEDMAN'S MEDICAL DICTIONARY"

INCLUDING DENTAL, VETERINARY, CHEMICAL, BOTANICAL, AND OTHER SPECIAL TERMS.

SIXTH EDITION NOW READY. Demy 8vo., pp. viii + 320. With 22 coloured plates and 71 other figures. Price 10s. 6d.

"PALMER'S LESSONS ON MASSAGE"

Revised by DOROTHY WOOD, M.R.C.S., L.R.C.P., Examiner to the Chartered Society of Massage and Medical Gymnastics, Lecturer at the Chelsea College of Physical Education.

"We can honestly say we know of no book on Massage so clear, so readable, and so uniformly sound." —SOUTH AFRICAN NURSING RECORD.

"As a classical textbook upon the subject it easily retains its premier position."—NURSING MIRROR.

"For those requiring a really practical work on the subject we have every confidence in recommending it."—ST. BARTHOLOMEW'S HOSPITAL JOURNAL.

THE STUDENTS' AIDS SERIES

A Series of Books on all subjects, specially designed to assist Students in grouping and committing to memory the subjects upon which they are to be examined. The prices range from 3s. to 5s. each volume.

BAILLIÈRE, TINDALL & COX

7 & 8, HENRIETTA STREET, COVENT GARDEN, LONDON, W.C.2.

Est. 1826.

SPECIALISATION!

IN THIS AGE OF SPECIALISATION IT IS NECESSARY TO SUB-DIVIDE THE ACTIVITIES OF A STAFF ORGANISATION AND APPOINT, IN CHARGE OF EACH SECTION, MEN OF OUTSTANDING ABILITY.

A COMPANY WHICH FINDS ITSELF IN A FOREMOST POSITION IN A HIGHLY SPECIALISED INDUSTRY, MUST SEARCH DILIGENTLY FOR YOUNG MEN OF PROMISE AND ACHIEVEMENT, IF THEIR ASCENDANCY IS TO BE MAINTAINED

INTERNATIONAL CO-OPERATION.

MR. J. M. GRAYDON, well known to all Watson-Victor users, returned from the United States after investigating the latest Equipment and methods under MR. ED. C. JERMAN (of the Victor Educational Department) whose recent visit to Australia will always be remembered with interest by those who came in contact with him.

TECHNICAL INSTRUCTION SECTION.

To continue the good work of Mr. Ed. C. Jerman, we organized a Technical Instruction Section in charge of MR. W. J. JOHNSON, who has made a searching study of technique.

MISS CHAPMAN joined the Watson organization after intensive study under Dr. A. J. Pacini, M.D., in charge of the Department of Biophysical Research in the Victor X-Ray Corporation. Miss Chapman will demonstrate the possibilities of Physical Therapy Equipment.

ENGINEERING SECTION.

The appointment of MR. L. E. BURT as Chief Engineer places at the disposal of the Medical profession and Hospitals, an X-Ray Engineer who has had years of experience in the design and manufacture of High Tension and High Frequency Equipment.

SERVICE SECTION.

We hold as our objective the maintenance of a Service Station of unapproached value, and this section has been strengthened by the appointment of MR. C. F. KELAHER, who is well known to the Medical profession. Mr. Kelaher will work in close liaison with other specialized Sections, and users of Watson Equipment will be assured of expert service.

W. Watson & Sons Ltd.

SYDNEY: 15, CASTLEREAGH STREET.
MELBOURNE: 117, COLLINS STREET.
BRISBANE: 357, QUEEN STREET.
WELLINGTON, N.Z.: 132, CUBA STREET.
AUCKLAND, N.Z.: 228, QUEEN STREET.
ADELAIDE: EVANS BUILDING, JAMES PLACE.
FACTORY: CARLTON, VICTORIA.

Wholly Set Up, Published and Printed at The Printing House, Seamer Street, Glebe, Sydney, N.S.W., by HENRY WILLIAM ARMIT, of The Point Road, Woolwich, Sydney, on behalf of THE AUSTRALASIAN MEDICAL PUBLISHING COMPANY, LIMITED, of 30-34, Elizabeth Street, Sydney.